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An Exploration of Adult Experiences in a School-to-Work Program

by

Carol A. MacDonald Theberge ©

A thesis submitted to the Faculty of Graduate Study and Research in partial
fulfillment of the degree of Master of Education
in

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Abstract

School-to-work programs like the 'tech-prep' initiatives common in the K-12 system have been preparing adolescent learners in high schools for the world of work since the early part of the decade. A similar philosophy underlies a school-to-work program, the Environmental Worker one-year certificate program developed and offered at Keyano College responding to the Conference Board of Canada's 1993 and 1996 employability skills profiles. This program targets adults who self select re-entry to the workforce. The employability skills profile suggests that academic skills must be buttressed by skills which allow a worker to be personally responsible and team-focused. This study researches from a qualitative and phenomenological perspective the experiences of representatives of the first cohort of learners of the Environmental Worker program. The results of data analyses show that while learners are responsive to and appreciative of hands-on learning experiences, they identified that greater relevance to geographical and regional concerns on the part of administrators and instructors is necessary. Participants noted a desire to continue their education to a more fulfilling level for both educational and employment reasons by modifying the program to a two-year diploma level using locally meaningful and relevant learning experiences. While participants noted that the unique situations of adult learners were addressed by a preparatory semester which built learners' confidence, the transition from the preparatory semester to two subsequent college-level semesters was stressful. Learners, nevertheless, identified that they had developed both group interaction skills as well as a higher degree of individual competence. Because evidence for the latter two claims was readily

supported with copious personal anecdotal evidence, the participants' assertions provide sufficient evidence to research more completely with subsequent cohorts questions about the growth in self confidence and the effect of group interactions on participants' individual development.

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CHAPTER 1

Introduction

Background

In recent years trends in adult education have evolved which reflect the fact that more and more adults are returning to upgrading activities as they face the economic and fiscal realities of the current times. Job obsolescence and the need for more sophisticated training for newly created jobs and proposed jobs have necessitated that members of the adult population return to formal education to increase their levels of academic preparedness before entering specific job training or re-training programs. Adult education upgrading departments have attempted to meet the challenges for academic preparation as defined by employers in business and industry and by developing training programs. The public sector, through community colleges, have set standards for such programs which attempt to upgrade adults for entry level positions or to meet prerequisite education standards for retraining programs. The learners participating in this study are involved in a school-to-work program designed to foster in learners a set of specific job related skills for entry-level jobs as environmental field workers.

The issues surrounding the question of how to deliver education to adults are complex in that they involve a large number of factors influencing what education means to adult learners. The question of how adult students' learning differs from the learning of adolescent students engaged in similar educational experiences has been raised many times. Brookfield (1986) and Knowles (1975) identify the four andragogical principles which characterize the adult learning experience as different from the adolescent pedagogical learning experience:

(1) Adults desire self-directedness

(2) Adults' experiences are a rich learning resource

(3) Adults' learning should be organized around life application

(4) Adults wish to apply learning immediately

Darkenwald and Merriam (1982) confront the issue of the philosophical implications of adult learning by characterizing the field of learning as a young, developing enterprise whose practitioners are not professional educators but occupational experts. As such these educators bring to the classroom extensive knowledge of the specific content required to perform tasks associated with the content area. Such occupational experts usually are not versed in the principles of educational practice that would help them to establish learning needs, learning objectives, evaluation parameters and curricula formats. Darkenwald and Merriam contend that adults engaged in formative, upgrading experiences have needs that cannot be addressed by limiting their educational experiences to skill acquisition. They must learn to learn and to develop socialization and psychological coping behaviours that will encourage them to actively overcome barriers they may face in the present and in the future. As a result upgrading education based on training models, which address skill acquisition needs, is not effective in upgrading education, according to these authors.

Similarly, Knowles (1992) suggests that andragogical models that focus on skills acquisition organized by "expert" instructors may not be the most effective methodology for upgrading learners. Principles associated with pedagogy which underlie the formal, K-12 educational system may be more appropriate for adults in formative or developmental programs such as upgrading or literacy courses. Teacher-centered formats and rigid adherence to general, established curriculum may well be better suited to the developmental needs of adult learners whose biological age is not consistent with their sociological age or psychological age.

Darkenwald and Merriam, as well as Knowles, make a case that adult education based on training models does not meet the needs of upgrading students. In addition Knowles suggests that traditional pedagogical models are as well, if not better, suited to the upgrading needs of adults. Considering the growing trend for adults to seek education which reflects job-readiness, many adult education programs, while attempting to provide such employment training without the accompanying development of self-reliance and life-skills would appear to be engaged in a difficult task. The questions revolving around adult education that leads to employability are reflected in the document released by the Conference Board of Canada (1996) which divides employability skills into three categories: academic skills, personal skills, and team skills. Although there is a focus on all three areas as significant to an entry-level worker, the Conference Board of Canada's document emphasizes that skills other than academic or work skills - team building and personal skills - are significant to providing the workforce with well-rounded contributors. As might be expected, given the variety of types of subject matter, the need for a productive workforce and the recent growth in the number of adults engaging in learning, there are conflicting theories leading to conflicting practices in the implementation and delivery of adult education programs which produce the best educated, most flexible and adaptable workers.

Since upgrading for employment preparedness is a growing trend in adult education, identifying how adults learn and what they gain from particular types of learning experiences is a pressing need within the community of adult educators. If adult education practitioners are supplied with a comprehensive view of the experiences adults encounter during learning, they will be better able to answer the questions of how adults adapt to learning experience. Equipped with such information, practitioners and planners of adult programming will be advantageously prepared to plan, to develop, and to implement upgrading programs, which address the needs of adult learners in society.

The project evaluated in this thesis is a one-year certificate program offered at Keyano College in Fort McMurray. The program, the Environmental Worker certificate, has been offered to three cohorts as of this writing. The goal of the project is to prepare entry-level workers to assume environmental fieldwork positions in the Fort McMurray area. Employers in the area noted the need for a field prepared work crew to operate when employer needs dictated. Employers characterized the required educational programming as more hands-on and less theoretical with practitioners requiring only minimal academic preparation offered via a practical experiential format. The program consists of three 4-month semesters including classroom instruction and two practicum work placements over twelve consecutive months. The goal of the program is to present learning that is at once relevant and meaningful since the learner is learning a skill leading to employment. Students of the first cohort are participants in this study.

The Government of Alberta through the department of Advanced Education and Career Development has continued to explore the relationship between education for adults and the place adults eventually will assume in the workplace. The result of these explorations is the Adult Skills Alberta (1998) document, which categorizes adult education practice into three subsets. Each subset stresses one of three focuses: academic, occupational or personal development. What is unique about this approach is that the main focus of each domain is informed by the other two. For example, a program which stresses occupational skills includes both academic and personal management outcomes. This project, the culmination of four years of research by the Government of Alberta, suggested the framework for the program studied in this project

Research Questions

The questions which guided this research project are as follows.

Primary Research Question

How did mature adult students who have not completed high school or have been away from the work force for substantial periods perceive the Environmental Worker School-to-Work Program as an employment preparation vehicle?

Secondary Questions

a) From the learners' perspective, what changes, if any, have learners perceived in their own abilities to be self-directed?

b) Did the adult learners view the learning experiences as effective representation of those skills required for employment?

c) How did adult students view their place in the classroom with respect to participating as part of a team?

d) Did adult learners perceive that they have a better self-concept after completion of the program than before program participation?

Study Significance

This study of adult learners concentrated on the learners' perception of their experiences in a school-to-work, employment focused program, the Environmental Worker Program at Keyano College. The learners are typical adult learners who can be characterised as "underprepared" or in need of upgrading. Learners of this level are usually recommended to traditional adult basic education upgrading programs which provide traditional classroom instruction in basic reading, language and numeracy skills. Quigley (1993) reports that adults enrolled in typical adult upgrading programs vote with their feet on the success of the program. Watt and Boss (1987) showed that attrition from Adult Basic Education is high for a number of reasons. Their and Quigley's contentions are similar in that both agree that education of this nature is often not meaningful to the learner or seems irrelevant to the learner's life circumstances; the result is high attrition.

Knowles' (1973) and Brookfield (1984, 1986) make the case for adult education with clearly articulation goals which renders the learning experience both meaningful and relevant.

The answers to questions concerning how adults perceive their learning experiences and how they react to particular treatments and methods of instruction can enhance the perspectives of those making decisions concerning the type of educational experiences which are appropriate for adults. Other contributing factors such as the influence of socio-economic factors, learning styles, and whether or not the expectations of adults are met within the classroom will contribute significantly to an understanding of how adults' perceptions contribute to their success in this environment. Since the emphasis for upgrading learners in the industry training world of today is one of job readiness, programs like the Environmental Worker program are becoming more and more relevant in light of the fiscal reality which results both in the loss of jobs and the shrinking of educational budgets (Employment and Immigration Canada, 1991). The results of this study provided information regarding significant implications for future programming initiatives in adult basic education and adult literacy as components of training programs. Programs which emphasize skills acquisition directly related to future employment are becoming the norm for Alberta. Similarly, this research shows that adults appreciate educational environments which create a comfortable and safe area for acquiring education resulting in direct employment. This research shows, additionally, that there is a need to re-think the organization of this type of educational experience.

Employment and Immigration Canada (1991)

According to Employment and Immigration Canada's (1991) report, the training and education of the Canadian labour resources is crucial to developing an effective labour force which will ensure Canada is competitive in international markets in the future. The impact of technological advancements has meant world wide modifications to industrial and occupational structures in the global marketplace. If Canada is to advance its position economically, training and education initiatives must keep pace with these changes. Literacy, numeracy, and technical skills are the building blocks of all training and education programs which result from pressure for a highly skilled workforce.

Employment and Immigration Canada (1991) further reports that Canadian employers are defining basic skills as the ability to function independently, make decisions, take initiative and, most importantly, to be able to participate in training and retraining programs that will be mandatory as job obsolescence necessitates that workers change jobs or function in modified or upgraded positions. If adult workers are not developmentally prepared with an adequate level of basic functioning skills, they will not adapt to the demands of technology and this will adversely effect Canada's competitiveness in world markets. Programs with on-the-job training components where learners are able to job-shadow experts and gain real experience are favoured as more effective and thus, more attractive programming choices for the expenditure of the taxpayers dollars.

Assumptions and Limitations

Field of Study Assumptions

It is my understanding that readers of this research will have familiarity with aspects of the field of study in as much as they have knowledge of:

(1) the concepts of pedagogy and andragogy,

(2) a working knowledge of motivational factors involved educational practice,

(3) general concepts of the purpose of school-to-work programs,

(4) the purposes of educational practice for providing for cognitive, psychomotor and affective education, and

(5) vocabulary significant to academic development and occupational training.

Researcher Limitations

As an adult education practitioner in a community college-based adult high school equivalency program, I bring a great deal of tacit knowledge concerning the structure of adult education to the study. I have been part of the faculty of Keyano College for eighteen years, thirteen of these as the Chair of the College Preparation department. When this program was suggested, I was approached to construct the academic upgrading preparation part of the Environmental Worker program and to be part of the delivery team for the first cohort instructing biology, chemistry and math. It might be argued that I have considerable vested interest in the outcome of the study since my personal situation depends upon the continuation of this type of adult education programming offered through the community college system. In addition since my biases would suggest that I am more inclined to agree with accepted practices of andragogy in adult education, given my training in adult education practice, revelations that are inconsistent with adult education practice may be discounted in interpretation of data, but I will bracket my orientation and try to maintain an open attitude toward the data I gather.

Thesis Outline

This thesis is developed into five chapters. In the second chapter, a substantive literature review reflects the cumulative knowledge base which forms the undergirding foundation of this study. It explores the research findings and theoretical constructs contributing to an understanding of the ways in which adults interact in developmental courses and the factors which influence their participation and success in these programs. It further explores recent shifts in focus that emphasize the employability skills gained from of school-to-work programs both in the United States and Canada, as well as the Government of Alberta's current guidelines for skills development programming.

The third chapter provides a thorough discussion of the methodological assumptions of the constructivist paradigm; as well a detailed methods section provides a theoretical discussion of the use of interviewing techniques and strategies employed in the data collection. The chapter presents the processes used for data collection and the probes employed to elicit the required depth of response. In this chapter, details pertaining to data analysis methods and techniques for researcher decision-making are explored, so that a clear audit trail of choices and decisions regarding data collection and analysis are apparent.

Chapter four has been organized to present findings and to analyze themes resulting from internal triangulations of transcripts in accordance with data derived from participants' views interpreted from transcripts, notes, decision making, and member checks for confirmability. Chapter five presents conclusions derived from analysis and interpretation as well as implications of these conclusions. Recommendations for further study as well as a review of the goals of the research project conclude the report.

CHAPTER 2

Review of Related Literature

Field of Study Literature

Upgrading programs are becoming increasingly important as educational initiatives for adults. Job retraining and upgrading of basic skills are necessary as adults face the complexities of the job market. Establishing the significance of these initiatives are government reports predicting the future of training and education for adults as well as numerous studies by noted adult education theorists who suggest how adults learn and how adults choose programs for study.

Motivation to Participate in Adult Education Programs

The research on the factors which influence adults to seek educational experiences is extensive. Contained within this broad category are numerous studies which concentrate on the issue as it affects students seeking upgrading or basic education courses. Houle (1961) suggests that participants seek learning experiences for essentially three reasons: to realize goals, to gain knowledge or skills or to be engaged actively in some constructive pursuit. Establishment of a motivational framework to explain why adults seek learning was complicated by the revelation that many personal and socioeconomic factors have significant influence over adults' educational motivations and subsequent choices of educational pursuits (Boshier, 1976; Boshier and Collins, 1985;

and Clayton and Smith, 1987). Such other factors as financial position, past experiences, self-concept and self awareness were shown by Garrison (1985) to be factors influencing adults in upgrading programs to complete their programs. In concluding that persistence is not correlated with course relevancy or course choice, Garrison makes a provocative contribution to the literature by creating a question about which factors are relevant in understanding why adults choose courses and persist in completing them. Garrison suggests that the factors which influence dropout or retention in higher education do not seem to be those factors which affect persistence/drop-out or choice in adult education. There appears to be consistency between Garrison's findings and the earlier findings of Boshier which suggest that the factors which motivate adult students are largely socioeconomic and personal.

On the other hand, Galliano and Gildea (1982) found that non-traditional students returning to a career-based community college cited motivation to continue and problems relating to younger students as issues with which they had difficulty when returning to school. Even (1988) noted that adult students and potential adult students expressed preference for highly structured learning environments and learning experiences that were meaningful. Watt and Boss (1987) report that adults in upgrading programs cited lack of self confidence and dealing with lack of success in formal high school as factors which confronted them when returning to upgrading education. Similarly Evans (1989) discusses, in addition to the factors introduced by Watt and Boss (1987), that students experience re-entry shock and infantilization when they return to learning.

In examining the motivation of adults to enrol in the General Education Development course, Darkenwald and Valentine (1986) found that adults pursuing this course do so for a number of reasons. Once again they cite the diversity of such students and conclude that students are extremely diverse in their reasons for choosing to participate in this program. Beder and Valentine (1990), through a study which combined qualitative and quantitative methods, concluded that adults are motivated to seek learning primarily by family responsibilities, job advancement, economic need, social diversion or to obtain educational advancement (high school diploma). This study once again emphasizes the diversity of motivations which prompts adults to seek educational opportunities.

Grow (1991), in developing the staged self-directed learning model, suggests that learners of any age group seek out learning which is consistent with their particular levels of self-directedness. If learners are field dependent learners who rely heavily on the support of a teacher to determine the diagnosis and prognosis for learning, they will seek out learning formats that are teacher-directed. Grow suggests the fit between learner and learning experience is a diverse one not dependent on age but on level of development toward self-directedness. Pratt (1984) points out that "adults vary in the state of readiness to take on the risk of planning and managing their own learning" (p. 237). Some adults may be more comfortable in environments that are familiar to them or that provide them with directives rather than encouraging them to become more independent in choosing their educational aims. Candy (1985) questions the concept of self-directed learning, exploring the question of whether institutions and teachers are more competent to plan education for students than are the students themselves. It is possible that such attitudes may contribute to why learners choose programs that are more rigidly controlled by teachers and a formal planned curriculum.

It appears that practitioners developing and delivering programs in the field of adult education need a shared meaning of how adults learn and what motivates adults to participate in adult education programs particularly in the area of adult basic upgrading or adult basic education. Understanding these concepts from the learners' perspectives will lead to consistency in planning and delivering such adult education programs. Currently programs are offered by public colleges, community-based agencies, private colleges, places of employment and business sectors. From the literature there seems to be common understanding that socioeconomic factors and personal factors influence adults, choices of educational programs. A more comprehensive philosophy and more specific information on why adults make these choices would be advantageous for adult education practitioners. This study should help to fill that void.

Trends in Adult Education in Canada

Related to the question of motivation of adults to engage in adult education experiences is the question of which courses adults choose and in which contexts they prefer to learn.

Statistics Canada (1984) reported that adult learning experiences included participation in job-related programs and in personal interest courses as well as in academic courses and in hobby, craft and recreation courses. Southam (1990) shows that job-related courses, including work-place literacy, continues to account for a significant number of education choices among adults. Participants in adult education courses in 1984 were more likely to be highly educated members of the labour force. In addition they tended to be young, urban, white-collar workers. Those who had less than a grade 9 level of education were less likely to participate in adult education courses than were university graduates who had the highest participation rates. Employment and Immigration Canada (1991) reports an increasing number of adults seeking academic-type education, while participation in developmental programs has seen an increase as opportunities for workplace literacy and upgrading are made available in both private and public sector educational programs, and as employers recognize the need for a more highly educated workforce.

Statistics Canada (1984) outlines that adult education courses have traditionally been offered through universities, community colleges, elementary-secondary school boards as well as by private schools.

More than 4 out of 10 academic upgrading courses were offered through universities while colleges accounted for 3 of 10 while elementary-secondary school boards offered 2 out of every 10 courses. The academic merits of these educational programs have been substantially similar; however the process of delivering this information and providing educational experiences is an area which requires study in light of the theoretical implications of adult education practice.

Theoretical Framework of Adult Education

As a concept, andragogy has come to mean, as Knowles (1973) suggested, the science of helping adults learn. That there is a fundamental distinction between the way adults and adolescents approach, choose and process educational experiences has been proposed by Knowles (1973), Brookfield (1986), and Welton (1987). Each of these theorists maintains that distinguishing between adults and adolescents is a significant task for programmers in the adult education field. When Knowles (1973) suggested that adult learners use their personal experiences and personal motivation in a task-oriented, problem-centered way, he was suggesting that adults know what they need to learn, to grow, to mature, or to reach goals.

Echoing Knolls, Brookfield (1986) accepts the concept of andragogy to mean that adults as mature beings have the ability to choose and to participate in learning experiences that they consider meaningful or relevant. Brookfield goes on to question the formalization of adult education in institutional settings because the process of education is often lost within the adherence to policy structure and accepted practices.

Part of Knowles' (1973) original definition of andragogy is the acceptance of the premise that adults engage actively in self-directed learning. Brookfield (1986) captures the concept of self-directed learning by defining it as "externally observable learning activities or behaviours" (p.40). Brookfield explores the idea of a critically reflective component of self-direction which prompts such learners to reinterpret and recreate their personal worlds. In summary, Brookfield describes the concept as a characteristic of adults who are able to interpret their worlds and take responsibility for the external management of their own learning. Practitioners of andragogy seek to help learners to develop self-directedness by fostering in learners an ability to identify individual learning needs, to make decisions, to use resources, to make judgements, to experiment with solutions to problems, and to exercise choice. If this is the ideal scenario, from the perspective of theorists in adult education, the question as it pertains to this study, is whether or not adults can be offered these comprehensive opportunities in a program narrowly focused on preparing the learner a limited, career application.

Knowles' (1984) premise is that when learning experiences begin from a point of departure initiated by the learner who identifies a knowledge deficit, the resultant experience is meaningful and satisfying because it responds to an awareness by the learner that there is a purpose in acquiring information or engaging in a learning experience. If, in practice, learning in formal settings can be structured to follow from learner-identified needs and focus on providing learning which satisfies these needs, learners may value these experiences and, from such value, derive the motivation to continue to seek knowledge. Eventually successful experiences in learning may promote a sense of fulfilment and self-worth. Indeed there is a suggestion that the early realization of an identified learning goal raises learner motivation to continue in the educational process. Knowles' model of andragogy, however, proposes that learners be involved in setting learning objectives, choosing directions for learning, and self-evaluating. Again from a theoretical point of view, adult students exercising choice of learning venue and being successful therein may gain self-worth and fulfilment, but in a structured, employment-focused program the question remains whether or not adults have any control, perceived or otherwise, in choosing the direction for learning, setting objectives or self-evaluating. These factors would certainly be pre-determined by the learning objectives identified for mastery of job competencies.

Welton (1987) recognizes that "one does not have to motivate individuals who determine what and how they want to learn" (p.55). Welton asserts that the focus of adult education involves "two elements: reproduction of consciousness and reproduction of skills" (p. 60). If, as Welton suggests, learners are encouraged to choose their learning to satisfy one of these two goals, learners will be better prepared to deal with learning experiences and learning environments of their own choice and so may persist in their learning. Therefore if Welton is correct, choosing to participate in a rigidly structured , employment-focused program may stem from learners' preferences and needs. It may also provide the learner with the necessary motivation to persist in the educational venture.

On the other hand, Collins (1988) critiques the idea of self-directed learning by stating that if adults are, by nature, self-directed, then institutionalizing the idea of self-directedness is a device used by adult educators to set up a protocol by which to define the field. Introducing management techniques into the process of learning under the guise of methodology, is in some ways, misleading. Collins suggests that practitioners and learners become pre-occupied with the idea of self-directedness as a management tool and loose sight of the bigger issues of adult education such as emancipatory practice. For Collins, the process and venue of education is less important than the purpose of adult education. If that purpose is clearly defined, articulated, and well understood, the resulting learning stands a significant chance of being successful. Collins view supports, in part, the career-focussed model this study explored.

Formal Education Settings - Alan Thomas

Thomas (1991) asserts that formal education, as it exists, has "distinct limits as a means of managing learning, particularly the learning of adults" (p. 142). Thomas continues his criticisms of formal education by attacking the undergirding assumption of the formal education system that it should concentrate on providing preparation for action and for life" (p. 132). Thomas contends that, although most formal education systems are admitting increasing numbers of adult students, these systems have not made modifications to meet the needs of these students, nor have they acknowledged that older students are forced to accept the "incongruous pretence" (p. 133) that the course they take will prepare them for life. These systems fail to take into consideration that mature, adult students have been "in life" (p. 132) and have derived considerable experience from life. In the past no attempt has been made to capitalize on this experience, or to provide a structured focus for this learning.

Thomas contends that the disservice to adults is not dissimilar to the disservice visited upon adolescents in today's society. The formal education system, aimed at preparing students, does not take into consideration that adolescents in this society are quickly gaining increased life experiences. In general, Thomas concludes that the system to address the needs of adults and to address the needs of adolescents must be revamped in order to take into consideration that sharing of experience is a valuable asset in the

"Learning Domain" (p. 132) and should be utilized more fully. Thomas concludes by stating:

> The explosive increase in the diversity of student's ages, backgrounds, and concurrent experiences has meant that dependence on such assumptions (of formal education) is no longer possible. Neither, therefore, is the expectation of a uniform or predictable character in the system's graduates.(p. 139)

School-to-Work Programs for Adolescents

Based on evaluation of global economic re-structuring conducted by government agencies and Universities, (Ohio State, 1987; Conference Board of Canada, 1993, 1996), a revised view of the place and purpose of education has been adopted. This fundamental change in the accepted emphasis placed on educational processes and delivery formats has affected the way in which educators are developing new programs of learning. Thomas (1991) suggests strongly that the need to undertake change in the educational process stems as much from the recognition of the evolution of the learner, either adolescent or adult, as it does from the nature of economic change. Studies by Ohio State (1987) and by The Conference Board of Canada (1993,1996) suggest such a need for re-evaluation of the future growth of the business and industry sectors and the evolving requirements for a differently-prepared workforce. In response to such observations and the rapidity with which globalization is affecting the nature of work, a movement in the United States is revising how education is viewed. This new vision is of an education system that prepares graduates for the highly technological labour force by providing learners with skills to assume specific positions in the work force. Such occupation-specific education would be highly career-focused with graduates attaining the highest level of occupational proficiencies through a combination of academic training, practicuum placements, and occupational skills as identified by industry and business experts (US Department of Labor, 1995). This study goes on to describe how schools must prepare young people for the job market and must embrace the changes in protocol necessary to effect this new vision. US Department of Labor (1991) identifies what the work force requires of schools in the future. The graduates should be thought-oriented, team-conscious, self-initiating, flexible, and able to make decisions as well have the basic job competencies and the ability to understand the nature of working safely in a complex environment. The US Department of Labor (1992) began the thought processes involved in the school-to-work concept identifying that a program known as Goals 2000 would be implemented during the 1990s to see the US prepared to enter the new millennium with a highly skilled and productive workforce, reflecting the educational outcomes employers deem necessary in the highly technological and rapidly evolving workplace. In 1994, when United States President Clinton signed into reality the School-to-Work Opportunities Act, the implementation of Goals 2000 became a reality (US Department of Labour, 1995).

In addition to reports from the US Department of Labor are a number of explorations of this new phenomenon. Perkins (1992) of Harvard University discusses the limiting nature of traditional school structures. He writes that education for children will be highly successful in schools that are energetic, thoughtful, and thinking-centered with learners engaged in relevant education based on current research into what the society and the labour market demand. Hull (1993) promotes the idea that integration of academic and occupational knowledge provides learners with a strong base for life while teaching the skills employers want. Academic study taught without application is less meaningful to learners. If these same learners are taught to contextualize their knowledge acquisition by immediate application, the knowledge base will be reinforced and, therefore, stronger than if not reinforced. The learner will be motivated to continue to pursue educational opportunity throughout his or her lifetime. Parnell (1993), who identified this type of learning as tech-prep, feels that this form of integrative learning will be more successful that traditional learning models . Parnell promotes the concept of learning in context, integrating all subject areas into application to job skills, and ensuring that all basic skill acquisition, including writing skills, are intermeshed with knowledge acquisition and practical experiences throughout the secondary school years. Gardiner (1992) writes interestingly of the way in which he perceives that children learn. He contends that children learn best and retain information longer when they understand what it means, why it relates to them, why it is good to learn it, and how they can use it. This is strongly reminiscent of Brookfield's (1986) characteristics of adult learners. If a school-to-work or tech prep approach is applicable to the learning of children, perhaps it would be as, or more, applicable to the learning of adults.

School-to Work Programs in Two-Year Community Colleges

The mid-nineteen-nineties has seen the development and implementation of a number of school-to work or tech-prep programs in two-year community colleges in the

United States (Bragg,1995a; Bradley,1995; Horon,1995; Cooper et al.,1995). These programs, tailored to meet the needs of youth making the transition from secondary school to post-secondary study, are modelled on an employer-identified competency approach.

Ohio State (1995) reports how tech prep concepts have been identified for a variety of career-based programs in the health sector. The focus is on encouraging university-entry learners from the traditional secondary schools to take clusters of career or technology modules in high school for which advanced standing is granted in the corresponding career program at the community college. Kazis (1995) addresses the issue of the role community colleges play in the transition between school and work. He pays particular attention to the concept of youth aspiring to a career focus determined at the secondary school level. Other researchers .(Walter, 1995; Bragg, 1995b; National Science Foundation , 1995; Horon, 1995; Land, 1995)identify this limiting nature of the choice at this young age as one potential drawback of the tech prep concept.

It is evident form the literature that the United States has embraced a revised vision of education for employment training for adolescents. What is also apparent is that there has been, to date, little published on the work community colleges are doing to formalize a revised approach to the education of upgrading learners in light of this new perspective.

School-to-Work Programs for Adults

There are numerous school-to-work programming initiatives offered in both the United States and Canada. Cohen (1998) describes how school-to-work or welfare-to-work programming is finding its way into various learnig venues in the United States as a result of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996. The Act made it more difficult for welfare recipients to access post secondary education since the philosophy of the legislation is to obtain work before welfare payments. In 1998 potential recipients were required to work 20 hours per week. In 1999 this minimum was raised to 25 hours per week, and from year 2000 on the minimum will be 30 hours per week. The good news for education is that certain education programs directly related to training qualify as weekly work hours. Cohen refers to these essential workplace-oriented programs as more successful in translating into successful work placements than are traditional classroom-based programs. Since 1995 the Centre for Employment Training (CET) headquartered in California has launched numerous employment-directed programs with a variety of occupational focuses. Chapters of this organization have initiated operations in sixteen states since 1995. These programs are essentially open-entry and, like the program described in this study, provide a combination of basic education skills, personal management efficacies, and occupational competencies.

Todd and Martin (1987) identify an Alberta model of Adult Basic Education that offers educational services to learners referred from unemployment agencies or social welfare agencies of whom there are an estimated one-quarter million in Alberta eligible to receive adult basic education. The model described in the paper fosters the development of personal and life skills in addition to academic skills. Although integration of academic skill and life skills is advantageous, this program does not integrate these two categories with team skills as suggested as necessary for employability readiness, as identified by the Conference Board of Canada. (1993;1996).

In the Adult Development Reform Project Advisory Committee (1996) report to the Minister of Advanced Education in Alberta, a new model for adult development in Alberta was introduced. The focus of the new perspective echoes the previously outlined characteristics of the tech prep or school-to-work approach. Programs for adults who lack skills to gain employment and to participate fully in society should be employment focused with emphasis placed on the development of the Conference Board of Canada's (1996) employability skills profile including team skills, academic skills and personal management skills. The new vision sees education for adults who have not completed secondary school as career or employment driven, not as a parallel for the Alberta Education K-12 system. The outcome based approach emphasizes basic education and upgrading that is directly tied to employment goals and, like the CET Program in the United States, maintains open access to learning as a key component of the new system. As a response to this Alberta initiative, the report proposes to reform adult education in the province of Alberta.

Methodology Literature

In this section, I will review the literature that informs the qualitative research in this thesis. I begin with the naturalistic philosophical orientation, then review phenomenology, and conclude with a review of the constant comparative method used herein.

Sandelkowski (1986), Lincoln and Guba (1982) and Guba (1981) have suggested that the naturalistic method of inquiry deals with the concept of a constructed reality. Each person within an environment has a unique view of that environment. When a researcher, as instrument, in the research setting engages in the data collection and data analysis of the study, it is important to consider that the researcher is an integral part of the environment and, in fact, a contributing voice to the research. Sandelkowski (1986) and Guba (1981) have identified the special issues associated with maintaining the confidence in the results of naturalistic or qualitative studies. Most important is the concept of assuring that rigour is maintained in both data collection and data analysis so results are credible, dependable, confirmable and transferable or generalizable. As a new paradigm of inquiry the sphere of qualitative research allows for the expression of independent views which coalesce around a general consensus of what constitutes truth value in a given situation.

Husserl, according to Pettit (1969), postulates that there is a close tie between experience and description and a theory which unites the two must understand the nature of description in a properly phenomenological way. This way relates the idea of consciousness of an object or experience to the ability to describe it. The consciousness, or noesis, is necessary before the experience or noema can be adequately described from a theoretical phenomenological standpoint. Montefiori (1989) characterizes the qualitative paradigm and phenomenological study as the experience of understanding that one's reflexive awareness is part of consciousness and as one engages in discourse, one is a participant in the experience of the discourse. Taken together these two ideas form a base for the growing awareness of the imposition individual subjectivity places on the understanding of experiences, philosophies and concrete phenomena.

Echoing this idea, Guba (1978) suggests a naturalistic method of inquiry that is phenomenological in nature and based on the writing of Max Weber, the renowned sociologist. Naturalistic inquiry is concerned with understanding human behaviour from the individual's own frame of reference. Guba continues to frame an argument that suggests positivists and phenomenologists approach problems differently and require different methods of inquiry. The qualitative or phenomenological model seeks deep understanding of a problem from the viewpoints of a small number of participants. The tools are description, immersion, and triangulation to discover the empirical nature of data to broaden understanding.

Natansan (1966) identifies phenomenology as the genesis of meaning that lies within the experiences we live and which is born within us and exists in our consciousness. It is a kind of introspection based on a psychological self-evaluation that arises from a conscious knowledge of one's own subjectivity. It employs the intuition of the thinkers in the situation and denies that, bracketing any factors of reality can render some aspect clearer. In fact, to deny one aspect of reality is to change the reality itself. A thorough understanding from a phenomenological viewpoint is comprehensive and includes metacognition.

Glaser and Strauss (1967) suggest a constant comparative method for organizing and interpreting data so that the consciousness of participants can be reduced interpretively to funnel down to those issues that represent the conscious universality that resonates through human response to experience. Such consciousness is the aim of phenomenological research. Bogdan and Biklen (1992) present similar ideas of how the phenomenological perspective provides universal commonality of human experience. Based on sociological and anthropological practice and philosophy, phenomenology provides a naturalistic view that leads to human understanding of human phenomena.

Summary

Government policies concerning education are forged in response to the future needs of the workforce. Because of job obsolescence and changing technological demands on the workforce, training and education of adults will become a priority in the future. Providing adults with the best type of retraining programs will be, therefore, a priority of future educational programmers. Adults seek education in a variety of venues and for a variety of reasons. Numerous socioeconomic factors influence their choices of educational programming. The undergirding theories of adult education proposed by noted theorists like Knowles and Brookfield suggest that adults' learning needs differ from those of adolescents and adults should participate in programs that consider these factors in planning and developing course offerings for adults. Other theorists like Collins and Grow suggest individuals should choose the type of programming that best suits their needs. New visions for the training and education of adolescents, including school-to-work programs and tech prep initiatives have been developed in the 1990s. Community College have been part of the process as receiving institutions for program graduates. Few similar programs exist for adults. Alberta is at the present time undertaking to reform adult education, particularly as it affects learner who have not completed high school. Based on providing employability skills to such learners and relying on the skills sets identified in the Conference Board of Canada's employability skills profile, the new system will be a new approach for adult education in Alberta.

CHAPTER 3

Methodology

The Philosophy of Qualitative Research

This is a qualitative study. Qualitative research conforms to the constructivist view which holds that there are multiple versions of reality. Because the ontology of the constructivist paradigm involves relativism as opposed to objectivism, the study will address the idea that there are multiple versions of truth and reality. Each participant in the study has brought a set of ideas, circumstances and perspectives to the study providing for a variety of versions of the experiences gleaned from participating in the Environmental Worker school-to-work program and that environment. As a researcher I have brought my own perspectives to the study and contributed my version of reality to the multiple realities of the other participants in the study.

In contrast to the dualist/objectivist view of positivism which sees the researcher as separate from the research and objectifies the subjects of the study while attempting to control for other variables including researcher bias, the epistemology of the constructivist paradigm incorporates the view of the researcher into the research as another voice in the project with another view of the situation. Guba (1981) contends that the researcher is not a disinterested outsider to the research, but is a contributor to the outcome and a part of the process. The findings of this study did not proceed from an initial hypothesis substantiated by experimentation or quantifiable observation; rather the findings were created from inductive analysis of the experiences as they developed throughout the course of the project. Guba (1981) and Sandelkowski (1986) express the concern that several important issues must be addressed in devising the methodology for data collection and analysis. The researcher must provide evidence of rich, vivid detail and thickly textured descriptions to allow readers of the research to make connections between the ideas and their own experiences. The credibility of the study, according to Lincoln and Guba (1982), derives from the confidence that results from a reader's knowledge that conclusions drawn can be accounted for in detailed presentation of data, clarity of explanation as well as in the demonstrated adherence to the participants' own expressions of their ideas. This project, which was based on phenomenological study, drew from the experiences of five adult students participating in a school-to-work program. As the researcher I utilized a methodology which, respecting the constructivist paradigm, allowed for the creation of a reality that reflects the essence of their experience with this phenomenon.

The methodology of phenomenology provided this vehicle. It is dialogic and hermeneutic which necessitated using in-depth interviews to elicit rich detail of the experience from the participants' points of view in accordance with the concepts proposed by Guba (1981). From examining the world of the study, the researcher and participants gave credence to each person's point of view. Each person's wisdom contributed to the synthesis of ideas which emerged from finding an understanding of the commonalities of the participants experiences within the reality of this phenomenon. In this research project, the interviews were conversational and the relationship between researcher and participants developed over several interviews to establish a rapport, to capture information from interviews, and finally to seek affirmation from interviewees through member checks that the words and ideas captured reflect the intent they wished to convey during the interview. Because this is phenomenological research, I have, as researcher, attempted to bracket my own biases. Sandelkowski (1986) contends that a "research instrument is valid when there is confidence that it measures what is was intended to measure" (p. 29).

To maintain consistency with the constructivist paradigm the issue of ethics was addressed in accordance with the paradigm's philosophical assumptions. From a constructivist perspective ethical consideration must be inherent in the design and implementation of the study. In practical terms this means that participants were formally invited to engage in the study, informed that their say is the final determinant of whether their material is included in the study and that they could withdraw from the study at any time if the experience became uncomfortable. Bogden and Biklen (1992) suggest that in the constructivist paradigm the participants are informed concerning the focus of the study and are, ideally, full participants in determining the direction of the research project. Because assurances were given that if a participant chose, after reflection, to delete some portion of his or her disclosure about an experience, I would necessarily delete that data from the study, regardless of the nature and significance of the data, the initial study was altered after a participant withdrew from the study due to emotional duress caused by a personal crises. Dealing with issues surrounding human experience is a highly delicate matter, so confronting and dealing with ethical considerations was a part of the operational design of this project. As a result of the same personal crisis, other participants deleted information surrounding one particular theme. The results of the study include this theme without modification to recommendations, however the confirmability of that theme is less compelling.

Although the constructivist paradigm deals in multiple versions of reality the issue of the quality of the finished product and the trustworthiness of the study's conclusions are important concepts. Guba (1981) suggests that evaluating trustworthiness means adherence to the integrity of the interviewees' words as expressions of their experience. The authenticity of the data is suggested by presenting textual descriptions cited from the actual transcripts of the interviews. In this study adherence to the actual tape recordings by either paraphrasing or using actual excerpts from these recordings will support credibility. Utilizing a constant comparative method, as proposed by Glaser and Strauss (1967), data were reduced from long transcripts to paraphrases or key words to determine themes for each participant. A further reduction of the data of all five participants allowed for an analysis of nine clusters of similarities and emergent common themes. The credibility of such themes rests on the integrity of my interpretation and loyalty to the actual words of the interviewees, and in several cases the words of the participants were included in their entirety to convey the depth of their expressions; these interpretations underwent review by those participants. It must be noted that the process dependability includes an accounting for modifications in journal entries which form an audit trail. Ensuring credibility of participants is as important as ensuring credibility of the process. Internal triangulation, seeking for consistency within a participant's expression of experiences, provided for the needed consistency within the data. Such measures to ensure quality while respecting the viewpoints of individuals rather than the view of the dominant social context has ensured the study is consistent within the constructivist paradigm.

Lincoln and Guba (1982) establish that within the constructivist paradigm the aim of the researcher is to produce outcomes that reflect the nature of the knowledge. From the multiple versions of reality which he or she collects, the phenomenologist attempts to construct an informed coalescing understanding of the shared experience of the participants which resonates from text to the readers striking a chord of recognition (Sandelkowski, 1986). This research has hopefully exposed the general reactions of mature adults experiencing a school-to work program with an employment focus; if the study has faithfully constructed any commonalties while taking into account the values of both participants and participant researcher, the results presented in the following chapter should expose the essence of that experience through the faithful recording, interpretation, and analyses of participants' descriptions. The aim of this project, like others, which are consistent with the constructivist paradigm, has been to reconstruct the view of the phenomenon based on the concept of multiple realities and perspectives. Individuals engaged in everyday activities bring their own unique views of the events of which they are a part. From people's own words and descriptions, captured through interviews, conversations and observations, a picture of the situation from the participant's reality has been constructed. Because the process is an interactive communication between researcher and the participants, the intense contact has necessitated an emphasis on trust and an egalitarian relationship. Because of the intensity of the relationship and the time-consuming nature of data collection only six participants were involved, one of which eventually withdrew from the study.

Method

Because the purpose of this research methodology was to arrive at a descriptive picture of the essence of the experience for the participants involved, I asked participants attending the Environmental Worker school-to work-program at Keyano College to describe the experience of participating in this educational endeavours. Because each person interpreted his or her experiences from a unique vantagepoint, the meaning of the experience formed the reality for that person and is, thus, an individually constructed entity. According to Husserl, in Petit (1969), each participant experiences the phenomenon and then realizes the experience. It is not enough for participants to have an experience, they must also be aware of their reactions to the phenomenon in order to comment on it in a cohesive and cogent manner. The researcher is instrumental in this process. The ontogeny of the constructivist paradigm leads to special considerations for such research given the philosophical underpinnings of the approach and the significance of the researcher as instrument. An audit trail that ensured confidence in the study's findings led to three important features of this research: considering researcher bias by bracketing, keeping a journal, and respecting the need for trustworthiness.

Bracketing

A special feature of the phenomenological methodology is the concept of bracketing. As the researcher in this study, I confronted my identified biases before beginning the research project. Because the researcher is considered an interwoven part of the research project, my biases, reflected in the process, were used to arrive at questions to pose and the emphasis placed on responses during the analysis and interpretation of data. As an adult educator in a public college, my general preference is to see improvements in adult education practice. As part of the phenomenological process, I have, as the researcher, become a participant facilitating the formation of the multi-voice construction reflecting the emergent picture of the essence of the participants' experience.

My position, as researcher, is unique in many respects. I had the benefit of an established relationship with the participants and the knowledge of the fact of their trust in me to represent their views as they presented it. Because of this relationship I felt, at all times, the need to be faithful to their words and respectful of and sensitive to both their anonymity and their belief in the purpose of this study. My position is further complicated by the significance of the study as an active part of my employment. The first cohort of this program participated in a pilot project which was introduced as a work in progress. The first offering of this school-to-work program was known to be flawed and it was generally acknowledged that the experiences of the first two cohorts would reveal data for subsequent program improvements. This information was supplied to participants so that they would understand that, although I was one of the creators of the program, my expectations were that errors existed. It was far more important to me to uncover these flaws than to protect the integrity of previous work which I knew to be deficient. Participants realized that they were involved in suggesting program improvements, which were necessary to my continued work with the school-to-work effort. If significant errors in program design went undetected because participants refrained from commenting on them to protect my feelings, the loss of that knowledge would be far more significant in the long run. Since this is true of my own position as researcher, I consistently reminded myself that the third and subsequent offerings of this program were the focus of evaluation of my work, and any criticisms of my previous work had to be viewed as constructive and had to be dealt with using a professional development mind set.

Researcher's Journal

To establish a methodology that is dependable, the researcher, according to Guba (1981), must establish an audit trail. As a feature of this research project, I kept a journal of my research experiences. One part of the journal contains observations, which pertain to my reactions to data as well as other considerations, or concerns, which arose because of the effect of my reactions to the data collection process. A second part of the journal provides a trail of decisions made at various points in the research process to identify why particular courses of action were followed and others were not. The trail of decision-making supports the processes and procedures of the research. (See Appendix A)

Trustworthiness

Confidence in this study's findings has been maintained through maintaining trustworthiness in process and perspective. This question of trustworthiness was addressed by ensuring, as far as possible the credibility and confirmability of the process by maintaining contact with participants to ascertain veracity of interpretation and analysis as judged by all participants of the study. Dependability of the process has been ensured by maintaining a consistent process of data collection and data interpretation which follows from the use of consistent processing methods. Because my biases have been exposed, credibility will be maintained, in part, because readers can evaluate the effects of these biases. Internal triangulation of participants' contribution has been ensured through scrutiny, by researcher and participants, of transcripts during data analysis and interpretation. Transferability has been assured by including participants who were representatives of the demographics of the participant population. One detractor from the study's transferability rested in the withdrawal of the only male participant in the study. The demographics of the entire cohort necessitated the inclusion of one male, preferably Aboriginal. This participant withdrew from the study for personal reasons marginally connected to the study itself. As a result, his input into data sets was edited from the final analysis, weakening evidence for several themes.

Data Collection

The method employed to collect data was the use of semistructured interview questions designed to encourage participants to describe their experiences of the phenomena of participating in this school-to work program. Interviews were in-depth discussions of the learners' experiences which explored the feelings and reactions participants related at the completion of the program. Each participant was contacted at least four times in order to establish the nature of the study and my role as researcher, to collect information, to review the transcript and finally to ask interviewees to verify the interpretation I made based on their views of the situation. Interviews were taped, transcribed and a copy provided to each participant of her words and my interpretations so that each participant had the opportunity to review her interview responses after transcription and after analysis, thus ensuring the credibility of the study. In addition several participants were contacted throughout the analytical process to question my conclusions and to verify if the conclusions reached from their comments were consistent with their intentions.

Participants

The data presented were collected from five participants involved in the Environmental Worker Program offered at Keyano College. They were chosen as representatives of those involved in such classes at Keyano College in Fort McMurray. Access was gained by seeking permission from the Keyano College Research Ethics Committee to approach potential interviewees to participate in the study. Participants were from 20 to 41 years of age and had been away from formal education for at least three years. Both male and female participants were chosen in such a way that ensures the inclusion of participants who exhibit demographic traits representative of the general population of students engaged in this type of upgrading education presently offered at Keyano College; however the only male participant selected withdrew from the process after the initial draft of the report. Each participant completed an information form providing personal data in the following categories: age, sex, educational background, and experience in adult education or retraining programs. (See Appendix B)

Ethical Considerations

The nature of qualitative study, in general, and phenomenology in particular, is such that the process relies heavily on the input of participants to provide a constructed view of reality from participants' viewpoints. As full contributors to the research process, participants must be aware of the pivotal role they play in the direction and purposiveness of the study. It is necessary that they understand fully the control they have to impose limitations on their contributions to the final outcomes of the research. It is imperative that the researcher, who holds a position of power as defined by the nature of being the instrument of the research, internalize such ethical considerations and make participants aware of same. To that end I took the following specific steps to ensure that participants' privacy and rights were protected.

(1) Participants were formally asked to participate in the study.

(2) Participants were asked to sign a release granting permission to use any data collected and processed in the study for publication in thesis, journal, conference papers,

or in other such publications resulting from the study. (See Appendix C)

(3) Participants were informed that they had the right to opt out of the study at any time, or to have any piece of information deleted in spite of its significance to the study.

(4) Participants were given the opportunity to review transcripts of interviews, interpretations of same or representations thereof.

(5) Participants were granted anonymity in that pseudonyms have been used to refer to all participants in the study.

(6) Participants were not subjected to any form of harmful interaction, whether physical, psychological, or emotional.

(7) Participants were fully informed of the study's purposes, methods, techniques or processes.

(8) Participants were not misled in any way at any time in the study.

(9) All data have been kept in a locked drawer in the researcher's desk in her home and under double password in electronic files to assure confidentiality.

All participants were informed of these considerations; those deciding to participate completed a written consent form which they signed. (See Appendix C) As a result of abiding by these considerations, sensitive data were removed from the study at three different times by three participants.

Methodology Assumptions

It is assumed that the participants of the study whose disclosures are representative of the situation, did not intentionally misrepresent their experiences, and that their recollections are complete, honest and thorough. It is also assumed that I have thoroughly prepared questions which legitimately elicit honest responses from participants through non-leading questions and sufficient probing follow-ups to encourage a thorough response from participants.

Data Analysis

The process of data analysis was the constant comparative method according to the format outlined by Glaser and Strauss (1967). In this study transcripts of interviews were typed out and individual thoughts and ideas of each participant separately numbered. The statements of each participant were categorized and coded with respect to the participant's age, sex, educational background, full-time or part-time status, as well as according to the interview number and the participant's reason for participating in the study. All data statements, once coded for each participant, were placed in a tentative category depending on key words and phrases reflecting the content of the statement. Each statement was coded for its placement in a particular content area. In several cases one statement was placed in more than one category. Content areas were grouped under headings specifying the ideas expressed. Each category of response was classified or described according to the content expressed by the paraphrasing of the participants' words. As each participant's interview was coded and categorized, the characteristics of each category were developed so that a consistent picture emerged of each category within the classification system. As information was reduced and assimilated, broadening or narrowing of categories and subsequent re-classifications led to emergence of better defined characteristics of categories for data placement. As data placement continued a reworking of categories continued until overlapping categories were reworked into merged categories and a theoretical model of categories and criteria for placement within categories developed. Several categories remained where data overlapped. Finally themes which are identified from categorization of statements were identified and clustered. The final aim of the process was to arrive at the essential commonalities of the experience of being a mature adult attending this school-to-work program. Feedback from participants was solicited to ensure that conclusions reached by data analysis were recognizable by the participants. Checks for triangulation of content among participants were performed along with an in-depth review of researcher decision points and observations in light of the researcher's position and biases.

Finally, the data were analyzed comprehensively by attempting to view the conclusions reached in a critical manner that openly confronted alternative interpretations.

Data Presentation

To ensure that confirmability and credibility were maintained, data have been presented in such a way that the trail of decision-making can be readily discerned by the reader. Actual words of interviewees have been presented in table form along with data interpretation from these words. Further representation of movement from interpretation to categories will be represented in table form below. A general listing of all resultant themes, as found in Chapter 4, is presented using the following classification format.

Category	Category Characteristics	Raw Data	Interpretation of RawData Key words or phrases	Justification for Placement

The final product, presented in subsequent chapters, is a set of common ideas which, hopefully, increases understanding of the experience of participation in such a program from the perspective of mature adult students.

Pilot Study

An important part of the study was the pilot study. This pilot used the same format as the main interviews and allowed for refining of questions pertaining to teamwork. One interviewee contributed her thoughts and ideas which were processed using the data analysis methods described herein. It must be noted that the transcript from this interviewee was analyzed discretely in order to identify the interviewer biases with respect to the participant's expressions and views. Results of the pilot study are rolled into the main body of the document since no theme emerged that was different from the themes developed by the other participants.

Implications of this Study

After arriving at a set of common themes describing the experience of mature adult learners attending the Environmental Worker school-to-work program, a discussion of the implications of such themes for future practice has been developed.

CHAPTER 4

Research Findings

The program in question engaged learners in an intensive three-semester learning experience which coupled traditional classroom training with on-the-job work placements. Covering a full twelve months, the program began in January with a four-month upgrading or high school equivalency semester. The subsequent semester beginning in May combined college level courses with a structured work placement in the Fort McMurray area. In the third semester, learners completed the academic courses while engaging in the second and final work experience. The philosophy behind the program was based on the tech-prep model practised in secondary education. "Tech-Prep", the name given to programs stressing both occupational and academic skills coupled with work placements designed for adolescent learners in the K-12 System, is also known as school-to-work programming. In the United States the term welfare-to-work has been used to describe educational programming applcable to meeting the hourly work requirements of the reformed welfare system. Adult learners were offered the opportunity to develop specific job-related skills as well as employability skills in accordance with the Conference Board of Canada's profile of employer-identified preferences in this program.

The need for environmental worker training was identified by employers in the region who felt that there were entry-level positions in local industry which required very specific and easily mastered skill sets. Working with Keyano College, members of the local industry community specified which academic skills would provide learners with the background and support for the acquisition of appropriate job-related skills. The result of discussions between education and industry was the pilot year of this modified program using a 'tech-prep" model provided a model for this development project. Participants received a certificate which prepared them for workplace entry level position performing environmental sampling for industry. Employers voiced their willingness to hire graduates of the program even though a formal high school or high school equivalency diploma was not necessary for admission to the program.

The participants of this study were members of the first cohort of this program. They began the program together and graduated together twelve months later. Of the fifteen completing participants of the program, four were Aboriginal while the other eleven were Caucasian. All but two were women. The ages of the participants ranged from 22 to 41. Twelve of the participants had children. The education range was from partial high school to one year of university with six of the participants not completing more than one year of high school. Three others had completed the GED while four had completed adult education high school equivalency courses as part of Human Resource Development courses. One had less than one year of college level education while one had completed one year of University. The five participants chosen for this study were women, ranging in age from 24 to 41. All five had children. One was Aboriginal while the remaining four were Caucasian. Two had partial grade twelve, one had completed the GED, one had HRD courses and a partial year of college while one had completed one year of university. The sample provided a fair representation the main group's characteristics.

While the group was chosen to provide a meaningful facsimile of the main group, each participant was chosen because of her own special abilities. Each member of the group had been fairly articulate about an incident which had occurred during the first semester of the program. Although two members spoke after prompting, they were clear in expressing their views and provided examples to demonstrate points. Of the five chosen two had opinions in opposition to the other three. Each seemed to speak from conviction and with reason. Additionally all five women performed well academically regardless of educational background. They displayed a well-defined work ethic that translated into taking on additional assignments. Each of the five chosen revealed an ability to convey words and feeling articulately and clearly.

The participants are identified by pseudonyms: They are described as follows. Celeste, age 24, is the mother of one child and attended adult upgrading classes achieving a high school equivalency diploma before attempting a college program which she did not complete. Nadine, age 41, is the mother of two teenagers. She completed one year of university. Lucy, age 36, is the mother of two children. She attended numerous human resource development short courses after completing adult education high school equivalency. Gayle, age 34, is the mother of two children. She did not complete high school. Susan, age 25, is the mother of two children, She did not complete high school, but does have a GED certificate. She is only one of the five participants who is Aboriginal.

The participants identified nine general themes concerning the experiences they had during the full year of the program. These themes are identified as 1. transitions, 2. administrative issues, 3. instructional influences, 4. program expansion, 5. the significance of experiential learning, 6. the need for support skills, 7. the relevance to northeastern Alberta, 8. group interactions and 9. the move toward independence. The participants' own words resonate with their deeply felt impressions of the impacts which the format, structure, curriculum, instruction and administration of the program had on their growth and development as both students and environmental workers. They described deliberately and articulately changes they perceived in the relationships they shared with instructors and other participants. Over the course of their numerous meetings with me to reflect on their words and their impressions of the effects wrought on them by their participation in the program, their comments constructed the meaning of this research project.

The nine themes are revealed in the following pages using participants' words, captured on tape during interviews, as much as possible and using paraphrasing as approved by them. Categorizing each comment participants made by identifying key word, phrases and ideas allowed me to evaluate their words independently of the rest of their data. Organizing all related ideas allowed for emergence of the theme concepts. By reviewing each theme in light of the actual words of the participant, the fit between the theme and the raw data allowed for the emergence of the essential shared view of the participants within identifiable themes. Presented in this chapter is the result of this interactive analysis.

Thematic Development

Transitions

The participants' reflections are their respective experiences and point to the importance of transitions in the programs. They identified three major transitions. First, the transition from unemployment to college in the first or upgrading semester emerged as significant. Second, the school-to-work transition was clearly noted, the realization of which is the chief mandate of the program. Finally the transfer of team skills to the work environment was highlighted.

Upgrading as transition to college.

As each participant identified the salient events of their experiences in the first semester, there appeared a dichotomy of thought in the minds of the participants concerning the upgrading semester as preparation for subsequent college-level courses in semesters two and three. All participants entered the Environmental Worker Program from a non-school lifestyle or stop-out period from other school. There is ambivalence of opinion as to whether or not the upgrading semester is valuable although all of the participants agreed that a transition semester is useful.

Celeste spoke at length about this ambivalence of thought. Celeste, a high achiever in high school courses, acknowledged that while learning in the first semester was ‘easy”, “fun” and sometimes “silly”, it was also necessary.

> Because if we had gone full force into the first semester in say, soils or ecology or something, I would have left right away. I wouldn’t have been able to handle it.

It was obvious in Celeste’s mind that the upgrading portion of the program was significant to her continued success in spite of the fact that she “. . . did know a little bit about biology and more about chemistry and math was my best subject.” In spite of the knowledge base, Celeste felt that the upgrading “. . . was the best part of it, that we got to ease into the things we were going to learn.”

Nadine, another highly qualified participant with university-level education, concurred by saying “ … maybe I could have personally taken something more challenging on but I don’t know if I was ready for it at the time.” Nadine continued by saying that she felt in the upgrading “. . . the presentation of course material . . . was a brush up on what you should have gained from your grade 12 high school education in regard to Biology, Chemistry, and English.” Nadine thought of the upgrading as “ … a preparation” and “ a really unique way to get back into education” For both of these previously successfully learners, the opportunity to “brush up” on academic skills and “get in . . . gear” or “ease in” were identifiable as appreciated outcomes of the upgrading experience.

Lucy and Susan supported the need for the upgrading transition. Lucy, with a fairly strong academic background despite lacking a high school diploma, concurred that the upgrading refreshed academic skills but she added, "I thought I would have known this before I started upgrading. I took Biology 30 but I don't know where it was." She went on to add "I took Chem 030 and there were things in there I am sure I didn't learn (in Chem 030)." Lucy found some areas of new learning in the upgrading in spite of the fact that she had the science pre-requisites for the college-level courses in the program, but she admitted she appreciated the upgrading since she had been , "…out of school since 1978." Another participant, Susan, in reflecting on the need to continue upgrading before college-level courses stated:

> I would say it would depend on what kind of people get accepted in the next term. If these people had been going to school it may not be a problem for them….from my perspective, I had been out of school for 12 years.

Susan later revealed how she felt after participating in the personal development course

> You know you could talk and not feel that everybody was looking at you because you had been in courses with these people. You did silly things. You know everybody was relaxed. It was fun.

For all participants, though, the most significant contribution of the upgrading was in helping learners return to learning. Gayle implied that the upgrading functions as a transition for mature learners. Gayle's corroborating comment supported that she shared Susan's perspective on personal development. "Rose's class was fun, you know." She went on to describe the experience as something that " got me speaking in front of people which I never could do before." Gayle stated at another time that she "got a lot out of that course; [it] boosted my confidence in myself which is what I needed." Celeste's story of her first day of class illustrated the group's need for confidence building:

> The first semester I remember the first day of school. Just before I left the house I threw up … I was so nervous. [Others}said that they were really nervous right now so 'bear with me' kind of thing. That was great because I was really nervous, too. Then you [the instructor] sat down and you got us. . . No, you told us a little story, I remember that, about yourself. And then you got us to tell a story to each other.

For Celeste, her recollections of her nervousness, both physical and mental, along with her memory of the ice breaker activity, were related as her way of creating a real picture of the tension and anxiety which the return to learning had awakened in both herself and her classmates. Like the others in the study, Celeste related, "I hadn't been in school for a long, long time." Celeste further clarified her explanations of tension and anxiety saying "A lot of us were nervous that we weren't going to make the grade and that kind of thing." In contrast Celeste described her feelings after starting the personal development courses by saying:

> It helped me get a bit more self-confident to do those life skills classes. It helped self-esteem, like very low. You know with all that had been going on in my life. And this class did help. I mean they weren't a fix at all, kind of thing, but they showed me a little more of what I had to offer to myself and me to see myself for the things I hadn't seen before. Like maybe I actually can do this kind of thing, you know. I always thought of when I came to this program I had low esteem. I thought I hadn't alot to offer at the time.

Participants consistently referred to the less "stressful", "exciting", "relaxed" or "fun" aspects of the upgrading section of the program. This perception emerged as one of the most significant themes from their revelations. Susan expressed confidence with the prescribed curriculum and relieved that the material seemed "easy" enough. Nadine touched on the role of upgrading in allaying the group's fears:

> No one likes to feel defeated. And fear, sometimes, inhibits people from learning well. I never felt fearful of anything that was presented. It was always challenging and exciting. I think it was more exciting than anything.

She continued to describe the balance she perceived in this section as "just challenging enough" to " make you feel good". Nadine referred eloquently to her impressions of the "fun" or low pressure aspect of the upgrading semester. For Nadine that "no pressure" environment arose from the fact that "there was no competitiveness whatsoever in the classroom." Nadine's impression was of "everyone working as a team. Each student helping the other, so to speak." In Nadine's words, this approach "turns people on to the successful and external pursuit of knowledge." Because of these experiences Nadine characterised as "unique" her experiences in the upgrading semester.

It would seem from the comments that the semester was highly successful in terms of reaction-level student evaluation. Learners also addressed the equally important question of whether or not the learning experiences provided a good transition to subsequent semesters. Several comments supported that it did. Lucy considered the transitional quality of upgrading by stating:

> I really found in Ecology and Botany that I was quite often able to draw from what I learned in upgrading and make a basis to grow on in that course which was excellent. If I didn't know "eukaryotic" or just a few key words, it would have made the course so much harder.

Lucy went on to point out that she perceived the second semester to be "progressively harder." She characterized the second semester as "a lot more difficult" "a real challenge." While she appreciated the challenge, terming it as "real nice" and the "sort of work we should be doing," there is nevertheless, the impression that there was a considerable increase in the degree of difficulty from upgrading to the second semester, college-level courses.

Susan, in commenting on the degree of stress in the second and third semesters concluded, "Well no, definitely no (it was not stress free) in the second and third semesters, not at all." She suggested that increased workloads might account for increased stress and the emergence of "class politics."

> But the second semester, I guess we talked about, we did botany, ecology, soils. Soil sampling that was pretty . . . it was stressful -- that could have been part of it. You know we had four major subjects and had a lot of work, a lot of work to do. A lot of new things to learn.

Susan saw increased academic rigor and an increase in the number of new learning initiatives as possible reasons for the increased stress she felt and the tension in the class. However, on the other hand, Susan concluded she "learned a lot" and "could carry over" information and she "knew a lot of the stuff we did in the second term."

Nadine, who spoke glowingly of the upgrading as preparation, felt that the "momentum, was kept in the second semester", although she hastened to add that "the course work was more challenging." One interesting comment Nadine made was that "you didn't fake it in the second semester" which could be taken as a comparison to the first semester when, perhaps, "faking it" might mean not making the acceptable effort in the courses. Nadine continued to refer to the fact that "you had to work so hard in soils, ecology and botany", the second semester courses.

Gayle analyzed her transition from semester one to semester two in much the same way that Lucy had. Gayle felt there had been a "flow" between semesters that "made everything from the first semester a little bit more clear." She went on to say:

> Then we realized what we were actually learning it for. Because the first time, I wasn't really sure what we were doing math for, some of the chemistry, wasn't sure about that. And then when we started our courses in the second semester, well you know, this brought it together.

Gayle summarized her view by saying:

> . . . I found that you picked up the pace which was really good because by the time the second semester came along, it was extremely busy. It was a lot of study. It was a lot of homework. A lot of reading and stuff like that and it prepared us for what was coming.

One other interesting aspect mentioned by Gayle and Celeste was the concept of "babying." Both referred to the upgrading instructors' treatment as "babying" or "spoiling", implying a coddling or over protective attitude. Gayle admonished, "You know, the first couple of weeks you kind of babied us along", while Celeste echoed this with the statement, "You spoiled us the first semester." Although Gayle admitted, "I did like [the babying] because I had been out of school for so long", Celeste reflected, "we really had a rough time for a while [in the second semester]."

Celeste continued to discuss the transition to the second semester, acknowledging "I did find the next two semesters rigorous." She characterized her experience as "really, really hard." She emotionally depicted her experience as "We were like on our own. We felt like children, out in the woods or something." The transition was made difficult by the exit of the "babying" or "spoiling" instructors. Celeste again injected emotion into her depiction, "From the first semester to the second, it was like letting go of the apron strings. I knew a lot of us were quite distraught [the instructor] was gone." Celeste felt [the instructor] should have seen their distress because as she revealed ,"We were in her office every two hours for the first month." Obviously, for Celeste, the transition to the next semester was emotionally difficult.

Celeste's continued revelations provided evidence that the transition was also difficult in an academic sense. Celeste admitted to having difficulty with "understanding Environmental Law" and "missing 40% of botany". She stated "Law is a whole new language… For a layman to go and read something out of the Environmental Legislation book, you know, he needs a lawyer." Although Celeste admitted to emotional distress and gave evidence of academic cognitive dissonance in later semesters, she still declared:

> You know, and I don't know, that doesn't sound right. Even though you did spoil us and did kind of help us along and the second semester was a bit of a culture shock kind of things that we had to go through, if the first semester was any harder, I think maybe, a lot of us would have backed off because a lot of us probably thought that we wouldn't have been able to do it.

Herein lies the dichotomy of thought. Celeste made the astute comment that "some people that could have worked weren't doing as well as they could," but she stated, "I wouldn't change [upgrading]. If it would have been more difficult earlier on, I wouldn't have stayed." The dichotomy is revealed in that there were two types of preparation identified: academic preparation and developing the confidence to learn. The question is whether the first preparation, the academic development, had been sacrificed in an attempt to encourage the second, developing confidence to learn.

In light of the assertions of each participant about their absences from learning and their apprehension about returning to learning, their readiness to learn at that time is in question. The upgrading gave to some learners a positive, stress free experience while to others, according to Celeste, Lucy and Nadine, a less stimulating environment than they academically required. Celeste, Nadine and Lucy, high level academic achievers, were reluctant to criticize too vigorously the inclusion of the upgrading package of courses in the first semester. They cited, "time to get to know one another," "to ease into learning" as goals achieved during this portion of the program. Susan, who had one of the least-defined educational background claimed that from her perspective, the upgrading was a "good experience, and not a luxury." The experiences of the group, all of whom persisted to completion, described a need for a transition back to learning which they felt the upgrading provided.

Because all five participants had meaningful, necessary experiences in upgrading, but experienced varying degrees of coping difficulties in the second semester, the question, obviously, to be asked is whether or not the upgrading semester was what it was designed to be, preparatory for the subsequent semesters in all ways. It cannot be ignored that, although participants enjoyed the learning experience and found it "fun" or as Nadine stated, "the most fun I've had with my boots on," if it did not prepare them to ease smoothly into the rest of the program without causing a stressful transition, the first semester's academic rigor must be questioned. Lucy's assertion that she "was surprised when we wrote the final how much we had actually taken in and absorbed so easily," must be contrasted with her view that the second semester was "really tough." Nadine and Lucy referred to "the skill of the instructors in providing different ways of presenting [ideas]" and making ideas "easy to learn," but Lucy also asserted that "she expected the course work to be harder."

The balance between achieving both aims, providing academic rigor and allowing a good transition to the classroom is a difficult one to achieve. Participants, both directly and indirectly, provided considerable evidence of the dichotomy revealed within the ideas they discussed.

The academic experience, coupled with the confidence building activities were presented in concert. Participants supported the need for this inclusion, but their statements reflected the need to re-evaluate the balance between developing academic competencies and presenting confidence building experiences.

Course work as transition to work.

Although there is evidence of some inconsistencies between course objectives and work placements, participants made note of the fact that academic course materials, for the most part, were relevant to the work practicums, with the experiential field component providing a crystallizing effect for material presented in class. Gayle stated:

> The soils work that we did, everything [the instructors] had taught in class that we learned. It made, you know . . . when you're learning the stuff, you're not actually doing it. You study it and you try to memorize everything, but when you get to the field and you're doing it, it puts it all together. It makes a lot more sense. Then everything just flows together. You know, all the information that you've gathered over time starts to make sense.

Gayle's comments pointed out applicability of course content at the workplace that cemented her understanding of course material.

More specifically, participants made references to the content of different courses which found application to the work site. Several made specific mention of the course titles and their application. There were passing but specific references to ecology and natural history. Lucy referred to appreciating the ecology background she had by the remark, "But for ecology, there was much more ecology at [a local oilsands plant] and maybe with (a naturalist) too that I was really glad we had an in depth background." Other participants made references to topics in ecology as useful. For example, Celeste referred to water ecosystem work by the remark, "We did bugs stuff in the classroom and, yeah, we, I got to identify bugs in the classroom and we had to identify bugs when I was working." Gayle, similarly, referred to ecosystem analysis in her comment, "We were doing a lot of, like we were in the water a lot of times, doing bird flight and algae samples and stuff like that," in reference to internal and external factors affecting the ecological habitat. Nadine enthusiastically referred to the experience she had at one of the plant sites.

> So I ended up in the geology lab at [a local oilsands plant] afterwards. That was really interesting. That's where understanding your natural history comes down to a sharp focus.

Participants made specific references to the usefulness of the botany course. Because of the nature of their assignments, each participant felt that including the botany had been advantageous. Susan provided examples to demonstrate:

> Yes we used our field book [botany book] a lot. We used something in plants . . . in the Boreal Forest. We used that for vegetation identification and all types of vegetation and trees and plants and flowers. And we did all of that and the sediment.

Gayle supported the applicability of botany in her comment:

> Everything that we learned, I used it in the six weeks and actually the person that I was doing my work experience for, I was glad for the botany because we did a lot of vegetation assessments and stuff like that in our job.

Gayle found that she and her partner had experiences that impressed their practicum supervisor enough to prompt him to assign to them "all the vegetation assessments." Gayle was pleased to report that other more qualified students . . . "didn't know a lot about trees and plants and stuff." She reported that "[the supervisor] seemed pretty impressed about that." Celeste, in reference to the same botany course, concluded "I got to see a lot of what we learned in the botany, see a lot of what I started working outside." Celeste, however, learned from her work experience that it would have been an improvement to have included "more natural botany" since, as she reported, "where we worked there was about twenty species, common species, that were in the forest." Celeste pointed out that the specific species relevant to every day work would have been applicable to the job site in the area.

By far the most useful course which participants identified was the sampling course. A plethora of comments form a cluster of similar references to this hands-on, application type skill. Susan reported doing a variety of sampling practices including "sediment sampling, weather monitoring on a daily basis to record it in a book . . . all six weeks . . . at the job." She characterized the sampling practices at [a local oilsands plant] as "major sampling" and expanded the list to include "insect, vegetation and water [sampling]." Gayle's comments formed a support for Susan's in that Gayle reported, "Well, I know from my work experience, I did a lot of soil sampling." Celeste made the connection between having "to identify soil samples in the classroom" and having "to collect soil samples and water samples . . . trees and shrubbery outside the plant."

On the other hand learners detected some problems with the techniques taught and the amount of training provided. Susan referred to the fact that the participants "did a lot of sampling and we were shown the correct way by a field technician," a comment which seemed to indicate that the classroom method was not "correct." Susan hastened to point out "[the techniques] were the same. Just a few little points they made to us, but pretty well the sampling we did [in school]." Lucy's comment pointed to a deficiency in this area of classroom experience when she said, ". . . I wish we had done more sampling because I learned to do really neat samples and I wished I could have done a whole week of this. . ." before she added, "This was all new to me." She also made the comment that she ". . . wanted to see more of the equipment and certain types of sampling," implying that she had not had experience with this equipment on the job site. Gayle made a disturbing comment when she described one work placement incident. She reported that "because some of the work at (a plant site).. . I just kind of stood in the background and I didn't say anything because I didn't have enough experience." She experienced the desire to "see a little bit more lab work," and ". . . with soils and stuff . . . to have more individual time doing procedures on my own." Lucy added her own comment which included an implication about the level of classroom instruction. Lucy reported that her supervisor said, "I can teach you how to take samples in a day, but do you know why we [take] this kind of sample?" Lucy implied that this was new learning for her.

Participants' reaction to two other courses, Outdoor Survival and Environmental Law are scarce but Nadine did say of the Outdoor Survival course, "From the outdoor survival, that was helpful. I'm out in the field now . . . I feel confident that I'm not going to lose it and I'm going to make it." Lucy had similar experiences using material from the Environmental Law course. Lucy reported that she "went back to the Court House and knew exactly where to look; I knew exactly where to find the information." Gayle concluded that she didn't "get to do anything we learned in the law course." Other participants made no reference to the curriculum material delivered in this course in application to the work practicums.

Participants' references to employer expectations were expressed with their answers. Susan noted the specialized skills required at the site in saying, "I know for [a local oilsands plant] it was hydro seeding, at [an out of area environmental contractor] was soils, [an out of area environmental contractor] it was all kinds of sampling, vegetation, everything we took." Participants' experiences with practicum supervisors were interesting. Susan reported that while one supervisor "was visibly upset" , she "wouldn't say anything." This reaction elicited the following description from Susan who reported , "…but that made me kind of uncomfortable that we weren't doing a good job." Susan referred to another supervisor who repeatedly said to her, "You know the stuff; you know what we're doing here" and in offering her "three weeks" of actual work told her "you're a good worker and we know you could do a good job." While one of Susan's supervisors seemed to say, "It wasn't like you did a good job," the other "expressed interest in her coming out next spring."

The participants noted, as Celeste stated, " . . working out at the plant all those things came into effect; we got ecology, soil and botany." Celeste felt that "[this program] was really neat. [It] gave us a kind of base for what I needed to understand." While Gayle acknowledged agreement in that she "thought everything … learned in class was used out on the job training" she earlier had noted some lack in "lab procedures" and "industrial lab work." Nadine indicated that "it was a turn on" to do "some soils" and it was "everything we learned," but more significantly she concluded that:

> What we learned . . . the basis understanding . . . everything that had kind of accumulated till we got to that first practicum to the last job practicum, it was a good and well rounded experience.

Susan summed up her statements as well as those of the other participants by concluding; ". . . the courses were really good that they picked. I know I used them a great deal in my two practicums."

Finally Lucy referred to one on-the-job work experience that seemed somewhat remote from the objectives each understood for the program. Lucy noted:

> One day we had to do maintenance on the Kestrel's boxes and we just had to walk a line that's about three miles long and log the nests, see if the perches had fallen off or if the nest was gone or missing or if the numbers were missing from it . . .

This work experience activity does not appear to have any connection to the participants' description of the classroom experiences in botany, natural history, soils, sampling, survival, ecology, or law.

Susan referred to another on-the-job experience that seemed unconnected to the program's objectives. Susan described taking turns "running up the dyke." She does not elaborate clearly on this experience, but again, it does not seem to be related to the courses. Susan stated clearly that this activity of running up a dyke did "not meet [expectations]" since she "figured sampling, just to take samples, go to the lab, have your own truck" would be the extent of her duties on the job.

In conclusion, there seems to be support for the applicability of course materials. Participants noted that they used information in a variety of contexts on the job sites. There is some question, however, about the selection of one or two of the work placements which did not seem to be in keeping with the course objectives. Participants did, however, find examples of course methods represented in the field, even if the methods in practise were not always exactly the same as the learning presented in the classroom.

Team skills transferable to the work site.

Participants' descriptions of their experiences focussed on how their personal abilities to interact in a team environment were developed or not as the program progressed from classroom instruction to practicum activities. Participants identified that experiences in the program prepared them for work at the job site.

Susan noted how participation on the job site opened her eyes to a different way of acting when she made the following statement:

> Well, yes, you see I was so quiet before and to depend on someone else to get something done, on like, say, working on a project . . . I had a hard time relying on somebody to get something done. That was one of my main problems . . . doing everything by myself. . . When I had to hand it over to someone else, I was really hesitant . . . when they said, "well I can't find this and that" . . . You have to learn to just never mind their attitude and just get the work done . . . You just had to learn to deal with it and work as a team. . .

The Conference Board of Canada (1993) identifies that the ability to make decisions in contributing to the work environment is a desirable outcome of educational programs designed to prepare participants for the job. Tolerating deficiencies in ideologies and attitude is a part of this ability to interact positively.

Lucy felt that having the option to rely on co-workers and delegate was a two-way interaction. She expressed her appreciation for working with a reliable "partner" when "you're not there to witness it [the job] so you have to rely on that person's skills. It was really nice to be able to do that. . ." Lucy was equally pleased that co-workers were "able [to question her] because she "would hate for somebody to come up and assume that you knew what you were doing," implying that it is a sharing of responsibility to have a partner upon whom to depend so that "you know in your own mind how they gathered that data.." The co-operation was important to Lucy. Similarly, Susan reported, "That's one thing I learned to do, just to give it to somebody else and say 'Fine, they'll do it'."

Celeste and Gayle defined the concept of team player in surprisingly similar ways. Celeste described a team player as "someone who co-operates . . . helps out and gives constructive input . . . who says 'We did it, not she did it'." Gayle contrasted the way she had viewed the concept of team player before participating in the program with the definition she developed of the concept after the program. Before the program she said, "I probably would have said a team player is someone who goes along with everybody because they don't want to be different or have a disagreement or whatever." Her definition after the program, as she described it, is substantially different. Afterwards, Gayle characterized a team player as "someone who can be a leader and a follower, someone who gets along with everybody, not because they have to but because they do." Celeste concluded that "sometimes you have to use your leadership qualities, and sometimes you follow, so you do a bit of both all the time." Both of these participants voiced such closely identifiable conceptualizations of team constructs that one wonders if they learned this from some organized activity either in the classroom or on the job site.

Participants described their attitudes after program completion. Nadine took from the program "the attitude [of a student]", as she concluded, " when I went to work after the course . . . and that everything was there and if you wanted to know -- just ask." Nadine concluded that "they're [employers] expecting a good attitude and that you're willing to learn and not afraid to try." Nadine advised, "You better catch on to that right away and be a team player even if it's the hardest thing you do." In Nadine's experience she has seen that "some people struggle with those kinds of concepts and want to be in the limelight." Nadine advised that to be successful at work one must " park your ego at home and get in there, yeah!" Nadine's definition of a team player is someone who "is willing, open, helpful and considerate . . . [also] having some leadership skills and some direction." Nadine felt, "you always have to have someone who is a team leader or a team captain." In conclusion, Nadine concluded that team players must be able to assume leadership skills and be able to cooperate in the environment. Nadine expressed numerous values concerning the role of a player in the team who must "recognize there are shortcomings and shortfalls on the team" and "jump in there or get it yourself or motivate other people to fill in the gaps." Although Nadine expressed strong views about the need to be a team player, she concluded that she ". . . didn't feel the same about the people . . . at work" citing as her reason, " we didn't go through the same process [as with those in school] . ."

Susan and Gayle provided insights into changes they experienced. Susan explained how her own attitude has changed. She stated that she "learned how to take things not so seriously. Susan described her growth with her remark, "You know, have a laugh, and if somebody said something,...to clarify it, say my piece, say my part, whatever negative or positive." For Gayle, the change centered on how she felt about people's comments and her reactions. Gayle reported that before the program:

> If someone disagreed . . . I would have felt like it was a personal attack . . . I would have took it to heart . . . I wouldn't have took it as a learning thing . . . I would have tried it their way out of fear I might fail . . .

After the program Gayle described a different perspective that gave her more freedom to be able to try new ideas:

> Now if someone says to maybe try it this way, I'll do it that way and if it works out, I'll let them know. I'm not afraid to say "your idea was really good" or I'm not afraid to say "I tried it and did not like it, but thanks" . . . I'm a team player now compared to a year and a half ago.

Gayle provided an example to demonstrate by describing an incident at work:

> People we were working with were university students and we, actually, . . . [my partner and I] we did all the vegetation assessments because they didn't know a lot about the trees and plants and stuff. So that was pretty good; we were helping them out at the same time.

Gayle described being active in the work situation because she had strength to contribute. She said that, unlike her earlier attitude when she had the "fear to fail," after the program, she reported, that "now [she'd] like to be a leader." She proudly concluded, "Now I'd like to try. I think now . . . I'm more of a leader . . . I've heard people say so." One other insight Gayle gained was in her attitude toward other people. She explained, "before I always thought that everybody was nice and that's not the case." Gayle reportedly gained a realistic perspective of both herself and other people.

Celeste presented a dichotomy of thought and action in her description of interactions and feelings. Although Celeste acknowledged that she "had learned to deal with people better" because of the "mixture in our classroom where some [people] were terribly annoying" there is little evidence of this "learning to deal with people" or "cop(ing)" from her described experiences. Celeste reported that she "always ended up being in a group where I hated it. That always happened." Celeste described one situation in her work experience when she had a conflict with a co-worker:

> There was one instance where we were building a lean-to . . . the fourth member [of our group] who was non-existent for most of the time came

> over and started telling me how to do it . . . I said 'Fine, then you can do it by yourself . . . you know there is no "I" in "team" . . .'

After she stated this, Celeste reported walking away, but she did conclude that "it has to be between me and the other person." Celeste self-evaluated by saying, "I know I can be a little bossy, and I take control sometimes. I want things done a certain way and I have to correct myself for that," but she also stated that she thinks she is "eager to help and if somebody is tired or they are not feeling up to the task that day, I'll help them out." In fact, Celeste concluded that one thing she appreciated from the program was "learning to work in a big group."

Susan provided an example of how she demonstrated team skills in which she and her co-workers pulled together.

> Definitely, we had to have a hundred water samples done that day . . . I wasn't really the designator, that was their job, but we had to pull together to make sure it was done for the day. There were three of us and one was doing water, one was doing sediment, one was doing vegetation . . . .

Susan noted the team interaction which enabled the team to get the job done. Susan described the team's reaction to one incident when someone was absent. She stated, "We did have to say there's one person not here today, and we still have to get this job done by tomorrow, so we'd have to "giver" and sometimes we'd just go all day." Susan's example provided a sense of her willingness to accept responsibility, a skill identified by the Conference Board of Canada (1993).

Lucy provided an example of one experience she shared on the job which crystallized her attitude:

> One day we had to go and do maintenance on the Kestrel boxes and we just had to walk a line that's about three miles long and log the meat, see if the perches had fallen off or if the nest was gone or missing or if there were numbers missing from it . . . He [co-worker] went out of his way to do a visual check on the boxes without getting out of his truck . . . He was pretty much in control so I couldn't say too much, although I would try to get my two cents worth in when I could. But he would drive into get a look . . . And you couldn't do it from all the spots . . . And I said drop me off at one end and go park at the other end and I'll walk through . . . 'Well you can't,' he replied, '. . . they have problems with bears out there . . .' I felt terrible because it [the check] wasn't complete . . . to me it was terrible.

Lucy's comments reflected her sense of guilt at not having completed the job as it should have been done. She reflected later on what she would do to correct the situation by saying, "I didn't hesitate to let my boss know how I felt about the maintenance log . . . I told him, to drop me off tomorrow morning and I'll walk the line. I'll take my bear whistle with me." Obviously Lucy's work ethic was offended at not giving the best effort to complete the job properly.

Lucy acknowledged that for her "dealing with people was probably the biggest aspect of . . . personal growth" and that "a pecking order" was established in the class "by the third semester." Lucy related the classroom experience to the workplace by discussing how "you can work with all kinds of personalities in the classroom, then you can go on the job . . . the classroom isn't that much different . . ." Lucy concluded that "you still have to deal with somebody who wants to do it their way (when) you want to do it yours." Lucy attributed to the personal development class providing "actual skills to deal with people . . . pushy people . . ." and Lucy reported that she "put [these skills] to practical use because I haven't slammed a door in anyone's face . . ."

Participants talked about numerous values, attitudes and examples of their experiences in the classroom and on the job in an attempt to describe their team participation. They attempted to describe directly how they saw their personal ability to participate in a team environment change over the course of classroom experiences and practicums. What can be deduced is that each did perceive a change in their ability to recognize successful team efforts.

Administrative Issues

Participants revealed evidence of issues related to flaws in administrative control of the program. On several occasions participants referred to the problems instructors encountered setting up work practicums, the lack of preparation time instructors had, and the difficulties students perceived in the scheduling of class times, labs and field trips.

A school-to-work or "tech-prep" educational experience is, according to Parnell (1993) and Sebranek, et al. (1996), a process relating academic experiences to occupational tasks or functions. Effective control of program components is necessary for academic learning to translate to active experimentation and application leading to critical reflection which, according to Kolb (1984) is a necessary part of the learning process. Without the proper connectivity between the academic and the occupational components, a major ingredient of the learning recipe is missing. Control of the co-ordination between the academic and the occupational components of the program is essential for program success.

Several participants referred to the reported words of instructors who asserted that they had not been given much lead time to prepare for teaching assignments. Susan described two instructors' comments as "well I just heard about this work three days ago and the other one said last week." Susan surmised the instructor "was learning [the material] the same time we were." Susan noted, " So we'd ask her questions and she wouldn't know. I mean that wasn't her fault." Susan reported that one of the instructors was "grouchy for three days" because he "could not believe he had to stay in the Purple Palace [student residence]. Susan concluded that "there were a few people that were pretty upset," because as Susan remembered they said, "I paid so much money and my quality of education is definitely down." The instructor's assertion, according to Susan was that he had "not enough time to prepare the material." Susan expressed the belief that these two factors, the instructor's disposition and the participants' complaints about program quality, existed in a cause and effect relationship.

Gayle's comments created an echo of Susan's statements. Gayle suggested that "an instructor's . . . material just didn't seem relevant. It was inaccurate." Gayle felt that the instructor had been given an assignment she couldn't handle, but "had she taught another course she probably could have been an excellent teacher because she was really nice," but "this instructor wasn't as interested as we needed her to be. Gayle concluded that, " She wasn't always available." Gayle referred to another instructor's activities in class where "he lectured for one day and gave a work sheet the next day that had to be passed in the next day . . . gave two days to complete an assignment." For Gayle the compression of this course was problematic as can be evidenced from her statement, "And he was never around to answer any questions. So, I'm not sure that's the way it was supposed to be." Gayle cited two incidents. One demonstrated that an instructor had been mis-assigned and the other that an instructor was not given the appropriate course structure, from her perspective.

Nadine commented "realizing that there was a shortcoming in the classroom and I wasn't getting what I should be getting out of it and I was really disgusted with the material we had. . ." pointed to her disappointment with the course organization. Nadine stated that "it was obvious people were dissatisfied with the presentation" but Nadine, like Gayle, concluded that "it was not entirely the instructor's fault." Nadine felt, like others, that "[the participants] had been ripped off" both because of the instructor's presentation and because ". . . some of the material that she had to present was totally outdated. . ." Again instructional mis-assignment and poor choice of instructional materials pointed to a design problems.

Similar comments from Lucy and Celeste emphasized the statements of other participants. Lucy recalled that "the instructor" reported "I didn't have time to prepare last night so the day will be short." Lucy expressed serious dissatisfaction with the organization because "[she] paid $700.00 for this" and she " want(ed) full instruction, not an hour and a half." Celeste felt sympathy for the instructor who "got pushed into the course" because, according to Celeste, "that wasn't her fault." Celeste also reported that the instructor "did learn it at the same time we learned it," a comment which echoed one of Susan's.

Participants discussed other organizational issues related to scheduling, ordering equipment and arranging field trips. Lucy remarked that "two labs were overdue because she [the instructor] gave the statement, 'equipment didn't arrive'." Lucy also felt classroom scheduling had an adverse effect on the participants as evidenced by the following comment:

> . . . but sometimes in the program we always felt we were being treated second rate. Things like, right at the beginning, we had a whole bunch of classrooms all over the place because we were thought of later.

Lucy went on to conclude that "[this] did affect it and I think it was negative" because "when you are sort of taught as second rate, and then this is my opinion, that it really just reflected on your learning."

Susan reviewed her recollections about the scheduling of field trips. She remarked "the only thing I did mind was that there was a little bit of disorganization when it came to field trips." In the example she cited, Susan referred to one trip where participants "got to study" while others went on the field trip, assured they would be "back by twelve" when instead they didn't return "until 2:30" and had less time to study for the next day's test. Susan referred to disorganization with course scheduling when she remarked "Botany's on . . . botany's off . . . botany's on again" which created again the sense of disorganization in course administration.

One comment several participants made was in reference to finding work placements. Susan made the comment, "[An instructor] had done the whole operation of the resume for picking the people placed in practicums [and this] was done really good." The question must be asked about whether or not this was truly an instruction's responsibility or an administrative one.

Generally, comments focussed on a lack of organization leading to several issues of course delivery in the areas of assigning instructor's to courses and placement activities and in organizing schedules, field trips and labs.

Instructional Influences

Instructional expertise is one of the most important aspects of a skill-based program and instructors were clearly experts. Students recognized and did not question their instructor's content expertise, for the most part. The data that follow examine instructors' instructional abilities both in the classroom and on the job.

Each of the participants involved in this study was free in expressing both laudatory comments and constructive or corrective criticisms of the instructional influences on the program. The comments of the participants were sufficiently consistent within the collective experiences of the group to point out very real concerns with respect to how learners perceive the skills, responsibilities and expertise of instructors as factors impacting their learning experiences. The criticisms levelled are reaction-level evaluation statements. For the most part, the criticisms expressed refer to a lack of understanding, on the part of the instructors, of the needs of adult learners in formal learning settings.

Instruction and expertise.

One concern raised by learners involved was employing content specialists who have a strong base of theoretical knowledge, but who lack specific hands-on practical experience with the geography, geology, flora and fauna of the particular environment in which the participants would be working after program completion. Celeste expressed confidence in a particular expert's capability in general, but saw the choice of this person for this program as unfortunate for the program and the instructor.

> I felt sorry for the teacher. I thought she was doing a really good job . . . but she is from the United States and has no idea about our natural history. So, I thought, for somebody that did learn it at the same time we learned it, I thought she did an excellent job.. . . So, you know, we'd ask her questions and she wouldn't know the answers. I mean that wasn't her fault. She took the job and . . . realized she [didn't] know anything and said "Bear with me, I'm just trying to find out what's going to happen. . ." Some of the students did not agree with that . . . They made comments like "What does she know? She doesn't know anything. What is she here for?"

Susan supported Nadine's position on a number of points but, unlike Nadine, Susan felt that she "learned a lot", and the instructor "knew her stuff even though it was a bit relaxed until . . . she had a chance to get her course together." It is obvious to the learners that expert preparation must be specific to the job for which they are preparing, and they understand, but are not particularly forgiving of expert instructors whose theoretical knowledge base allows them to adapt their learning to the situation at hand with time to prepare. However, when Susan and Lucy said "She didn't have enough time to prepare her material," a subsidiary problem emerged that involves program planning. It is possible that the instructor, not given enough lead time to adapt her expertise, was left to deal with the fallout of inadequate front end planning on the part of the program developers, as expressed earlier in this document. Nadine's perception that there was a "shortcoming in the classroom" and her and Susan's "disgust with the material" added support to the fact that there seems to be a larger issue than instructor incompetence.

Gayle assigned a high level of significance for program success to the instructional influence on courses. She concluded that success in semester three classes resulted from student collaboration because participants "wouldn't have made it based on instructors alone." Although this is likely true of any educational endeavour, her comments reinforced her perspective about the out-of-the-area expert instructor's "examples . . . from the United States" that were "hard to relate to."

Both Gayle and Lucy attributed this instructor's out-of-the-area status with creating course inaccuracies (most resulting from the instructor's lack of understanding of the specific environmental interactions typical of the boreal forest). These two participants strongly criticized the instructor's ability on a professional level even though Gayle referred to her as "really nice." Lucy did not appreciate that the instructor's information was gleaned from "reading the text book the night before she was teaching it to us" and, as identified in the " Relevance to the Boreal Forest" section of this document, Lucy considered many of the errors in interpreting data concerning the prairie region or the tundra and taiga derived from this instructor's lack of familiarity with the region. Gayle noted that the inaccuracies resulted in her "actually doing work at home" on her own and "not really paying much attention to what she was teaching us." In Gayle's mind having the instructor "thrown into the course without any knowledge of what she was doing" was "discouraging" for participants and for the instructor.

Contrasted with participants' views about the theoretical expert from out of the area were their views of a theoretical expert from the major regional university. This content expert from a conservation science program at the university was viewed by

Nadine as "experienced, . . . very quiet, open and earthy. Very approachable." In Nadine's view, this expert instructor "knew her stuff", and as Nadine suggested, "When somebody knows their material . . .", implying that this improves course quality. Nadine characterized the experience with the comment "the quality of the [discipline specified] instructor was excellent." Susan pointed out that "[the regional instructor] knew her stuff, " although in Susan's view, problems with organizing this course were also apparent as evidenced by the comment "[The course] is off. [The course] is on. [The course] is off. [The course] is on again." Susan felt this administration flaw detracted from this course, as well, but there didn't seem to be any negative reflection on the course instructor, probably because "she knew her stuff." Lucy commented with reference to this instructor that "she was a lot more difficult [than upgrading]. It was a challenge and it was really nice." Lucy affirmed that "this is the sort of work [the participants] should be doing."

Instruction and classroom interactions.

Participants noted a second concern with respect to the influence instructional delivery had on the program's learning experiences. Participants expressed strong views about the classroom relationship between participants and instructors. Participants' comments on the instructional influence resulting from two experts and one upgrading instructor underscores their need to see instructors practice sensitivity.

Four of the five participants refer to one professional expert using common words and themes. Their displeasure resonates throughout their recounting of their experiences to such an extent that it is evident that they all shared a similar viewpoint. Celeste characterized this instructor as "very condescending" and "very uncooperative." She was extremely disappointed in the lack of help which "would have been much appreciated" and as a result, reported that she "really disliked [the course]." She felt the course was confusing when she realized she "was totally wrong [in her understanding] and would have to start from the beginning again." She felt participants were "struggling" and because the "course was compressed", he didn't provide "any help" in "understanding something so complicated."

Celeste was not alone in her observations. Lucy and Gayle expressed similar strong opinions, but revealed evidence of a lack of classroom management. Lucy felt comments like "Don't interrupt me when I'm talking; come see me after class," and "Weren't you listening?" were not appropriate responses. Lucy believed the instructor's comments "embarrassed the students" and created a poor classroom atmosphere. It is interesting to note that, in spite of these issues, Lucy acknowledged that this instructor "was a very good instructor; he was knowledgeable on what he taught." Gayle agreed that this instructor "didn't have enough patience" because "he seemed more prepared to come in and lecture" and "he wasn't prepared to answer any questions." Like Lucy, Gayle didn't feel these characteristics detracted from her learning because she "had learned something" and "could look at the newspaper at environmental assessments and . . . know what they were talking about." The fact that the instructor was only with the learners for a short time meant "he was not around to answer questions." In spite of these comments neither participant judged this instructor's content knowledge as anything but "good". But as Gayle phrased the situation, "I thought he was a little too tough. There was no being Mr. Nice Guy."

Susan reported the most expressive comments on the influence of this professional expert on her learning. Susan stated that this instructor was "all mad because he had to come from Edmonton and [stay] in the [student residence]." She reported numerous comments concerning his "grouchy" and "curt" demeanour because of these living conditions. This instructor was "barking at you" as Susan reported. Gayle's comment, "he has no patience," supports Susan's view. Susan described one incident of a learner who "likes to ask a lot of questions" which resulted in the instructor being "short with her." Nevertheless Susan agreed with the other learners that this expert "knew his stuff" in spite of his intolerance for "silly questions."

Comments about the second of the two expert instructors whose classroom management practises elicited comments from participants contrasted sharply with comments about the first professional expert. Nadine felt the second instructor "did a wonderful job for her first [instructional] experience." Nadine perceived that she was "at ease", "well prepared", "did her homework" and showed that "there was nothing she wasn't prepared to do to see them through this successfully." Susan supported this instructor's efforts by saying that she "got the whole class involved", "focussed on getting the work done" and "made sure we knew what we were doing." Gayle characterized her "as always there to help, whatever, whenever we needed her."

Celeste and Lucy both referred to this expert in similar terms. Celeste, in reference to this instructor, indicated "She always wanted to go up and down hills" on walks. Celeste, as an adult, lead us to believe that this does not take into consideration that adults are older and this more "vigorous" activity might be difficult. Lucy acknowledged that she "would have [preferred] this instructor to others" in spite of her inexperience and her tendency toward physical activity. But there was one thing she minded.

> [This instructor] could go from 9:00 a.m. to noon without a break. The smokers in the class definitely needed a break and those that were older needed the bathroom. Without structured breaks . . . people couldn't hold it any longer and . . . we would have a continuous chain of people going in or out.

This comment points to the fact that adults need instructors or facilitators who recognize that adult learners are sometimes older and have physical needs associated with this fact.

For the most part references to these two expert instructors characterized them as knowledgeable, but in need of experiences leading to classroom management techniques and an understanding of adults as learners. As Lucy remarked of the second instructor, ". . . there was never a point during the course that she didn't know the material. She was a good instructor. She needed a little bit of teaching skills." Lucy felt that this instructor had "picked up [these skills] really well in the 2-3 months she had us," but "if [the instructors] had the little extra teaching skill in the beginning maybe we wouldn't have lost some students."

Experiences with the upgrading instructor contributed to participants' view of the influence instructors had on their learning. Lucy had a unique experience in this upgrading class. She felt that she had been singled out by this instructor because the instructor felt that her work in that discipline was exemplary. Lucy thought "she was teacher's pet" because the instructor "came to [her] first thinking I'll get Lucy's done, show her exactly how it's done . . . Lucy will be able to help [others]. . .". Lucy felt this special treatment "caused a lot of bad feelings" for her. Lucy's assertion, "That was really hard to deal with" reflected that the instructor had not shown sensitivity to her feelings. Similarly, Nadine found some of her first experiences did not reflect sensitivity on the part of the instructor. After receiving back an assignment that was "all marked up," she felt "crushed." Nadine's self-esteem suffered because it was difficult to take criticism when first returning as an adult to a formal classroom setting and an easier transition would have helped.

Instructional influences on-the-job.

Notably, expert instructors at work sites had a very positive effect on participants. Gayle referred to one supervisor on-the-job who had "a real sense of humour." He gave her positive feedback and "he didn't do it harshly" when she "made a mistake doing pH levels." When "he made a joke about it," she relaxed. Gayle "never made the mistake again." Obviously this job supervisor took the time to explain. The hands-on experience where he could correct practise obviously worked well. Gayle felt this instructor was "really good." A similar comment from Lucy of her on-the-job supervisor occurred when she referred to him by saying, "I thought he was the best instructor" because "he taught you the whole time." She thought the on-going teaching experience in this environment was very positive. Lucy concluded that "you couldn't even go for a walk with him without him telling you something about botany." Similarly, Celeste gained a positive experience from working with the aquatic ecologist during her work experience. She enthused, "I thought it was really neat when he started teaching us that stuff." Seemingly experts may be more comfortable in their own job environments, and participants may have been more at ease in the environment because of this.

Instructional experiences were to all participants a significant part of the program. Gayle summed up the experience by saying that for her "the instructors were wonderful" because "they never once said this is too difficult for you. They basically said to try it and see what you can do." In general all participants felt, for the most part, instructors were knowledgeable with the exception of the instructor who lacked geographical knowledge, but revealed issues relating to the need for greater sensitivity to adults' uniqueness.

Program Expansion

Four of the participants made repeated references to the need to provide them with further educational opportunities, either by offering additional courses to complete the certificate to an acceptable prerequisite level to a second year at other institutions or by offering a second year in Fort McMurray. Due to the participants' family responsibilities, the latter course of action seemed to be the more appealing prospect.

In support of their contention that a second year is necessary, participants referred to their experiences on the work site and explained how the program and its participants were received during practicum placements. Nadine, Celeste, Susan and Lucy expressed various reactions to these encounters. For Nadine, although she admitted "[the participants] learned a lot," experiences on the job site pointed out the reality of the program graduates' actual job prospects:

> When we actually finished and you get out in to the real work force, you know nothing basically. You're just starting out with nothing and competing with students from other institutions that have credentials . . . they have a paper that [means] they're a technologist and you're a worker. You're stumped right there.

Susan's comments provided support for Nadine's experience in that Susan was surprised when "[workplace personnel]" informed her that they "only really recognize the two-year program" when hiring new staff. Lucy was discouraged to learn from prospective employers that they would "take [the participants] for a practicum" but informed her "you really don't have enough education for us to take you [in a permanent job]." In fact, as Lucy expressed her interpretation, "The whole impression we got out of it was that [employers] would like to have [the participants], but [they] need more education." For Lucy, the answer to this dilemma was simple, "It would be better off to have two years."

Employer practice, according to the participants, supported the statements they made. Lucy cited several examples of how the employer's direct actions were based on a belief in the necessity of having an educationally - credentialed work force. Lucy was appalled to discover that one employer was anxious to hire her practicum supervisor, but as she reported, the employer said, "he only has his two year diploma" implying that it would be difficult to hire someone with that inadequate credential. Lucy concluded that:

> If he [her supervisor] had a hard time getting into an environmental tech position with an environmental tech diploma, what are we [the participants] going to get with an Environmental worker certificate.

Clearly, for Lucy, situations at the work site created apprehension about work prospects. This apprehension was further exacerbated by other encounters. Lucy recounted a meeting with an individual while "water sampling." Lucy felt this "was something we [the participants] could do." Lucy was surprised when the individual, who identified himself as a "doctor of biology" reported, "actually I do this myself." Lucy's discomfort grew when she encountered another individual in the following situation:

> . . . In the lab he had a girl doing this tedious job of counting phyto-planckton in a petri dish and recording it. She said, "Actually I'm working on my Master's thesis at the University of Waterloo."

Lucy viewed other individuals with much better credentials during jobs she believed she had been prepared to do. Her discomfort with her misapprehensions was clear from her recounting of these incidents, although she hastened to confirm on two occasions that there were "opportunities out there" for her cohort group. She confided, "I know [one company] has taken on two of our classmates on contract." She went on to confirm that "[another soils company from Edmonton] didn't seem interested in the least about the amount of education we had and they thought with what we had, they could build on it." The thought of finding at least one company willing to train the program's participants who held the certificate brought Lucy some relief from job market tension.

Parnell (1993) in providing the procedural background for tech prep style school-to-work programs ties high school education directly to work-related skill mastery. His work, directed toward adolescent education, presupposes that adolescents will enter the work force at entry-level positions and through human resource development experiences, over the course of a career, will gain credentials. The fact that this program is directed toward adult learners complicates matters because, as participants point out, the employers are not looking for lower skilled, entry-level workers in the environmental field. Instead they are looking for employees with credentials that, perhaps, would allow them to work on clearly defined environmental tasks. The participants were obviously confused about this dichotomy between their beliefs in the credibility of their credential and the practice of employers to hire more qualified entry-level applicants.

One employer's comment, which Lucy reported, stands as a revealing sentiment about employers' expectations of the background that substantive education provides. Lucy quoted the employer as saying:

> You know with an ecology background we can teach you how to collect samples in a day. But we can't teach you [to have] an ecology background.

The employer, as Lucy remembered, was expressing the view that the educational preparation provides the tacit base of knowledge into which the psychomotor skill of how to do sampling can fit. Without the cognitive background, the knowledge of sampling procedures is less useful. The well-rounded worker has knowledge and skill, not one or the other. Within the Conference Board of Canada (1996)'s employability skill profile are skill sets describing not only as performing tasks but making decisions about when to perform the task within an environment of procedures and team decision making. This document seeks to include employability skills within theoretical frameworks, not to replace knowledge sets with other skill sets.

Susan pointed out that work in the field is available in the area and that "employers bring in reps from Calgary to do water tests, sediment sampling and vegetation seeding," but as Susan argued, "you have to have a two-year degree for them to recognize you as a technician." Susan, like Lucy, recognized the need for more education in order to be competitive with people from outside the area. She lamented that there was not "another course offered to get more in-depth [information] on what [participants] had taken."

Several of the participants questioned the integrity of the first year certificate as a preparation for a job or for further education, recognizing that it did require more work to become more competitive. Susan's view that another "in-depth" course is required may be realistic in light of the certificate status of the program's credentials. She further stated "I'd be really interested if there was another course that offered a second year or even to finish the first year certificate," recognizing "all we need is two or three courses." Celeste, on the other hand, seemed disappointed in the program's integrity as the following remark demonstrated:

> I thought the course we took here would be a prerequisite to any other course in Alberta. But I'm not sure that it is, and if it isn't, I would like to see that it is.

Lucy reported on one incident in which an individual at the work site mistook the twelve-month certificate for a "six week Industrial Worker Certificate." This distressed her greatly and she explained, "I had already put in eight months of hard work and said No!. It's a full 12 months."

Lucy reported a related concern about course integrity. She seemed to have misconceptions about the concepts of credit value and the weight of the courses within the certificate program. At one time she expressed concern that "It was an excellent course (soils) and I really liked it, but it's too bad that I couldn't get university credit for it." There appeared to be a need for clarification of the credential attached to each course within the certificate program.

Participants expressed concerns about their status in the work force and in so doing presented a consistent reference to how having the certificate, as opposed to the diploma, credential affected their self-esteem. Nadine clearly pointed to this issue in revealing:

> You have to have something behind you to take with you or you are not treated as you would like to be treated, or be accepted as you would like to be treated.

She also noted that ". . . having to go back out into the workforce is brutal without any credentials." This is supported by Lucy's comment that the treatment in the work force "definitely make(s) the first year student feel equivalent to zero." For both of these participants, the negative impact of feeling unqualified on their self-esteem was apparent from their words. Celeste made a comment that emphasized this point.

> I feel a lot more independent because I actually had something under my belt that I could say, "Now I am an Environmentalist." I do have a certificate. Even if it means nothing to you, it means a lot to me.

Underlying Celeste's comment was a sense of defiance against some attack on the merit and credibility of her credentials. For her to make the comment, "Even if it means nothing to you," she must have heard from someone that the credential was not viewed as prestigious or valuable.

Perhaps the vehemence with which participants such as Nadine and Susan expressed their desire for a second year stems from the need to validate the time spent in the first year program and to have a respected credential for their work. Although Nadine said, "I'm really anxious to get on with the next year; I want a second year," she hastened to add, " I guess if I hang in there long enough I can do it in my community without having to leave and be away from my family." The desirability of completing her education was balanced with responsibility to family and home for Nadine and she was not alone in this ambivalence. Susan expressed the same concern, "Yeah, I'm not willing to sacrifice." Like Nadine, Susan wanted to 'get the two year certificate" but responsibilities complicated the picture. Susan's words summed up the dilemma:

> I can't do it [get more education] at the moment. I have a young daughter. I can't do it. I don't have anybody to look after her if I decided to leave for three months. I'd do a second year if it was offered here . . . but right now it's not and I can't go out of town . . . even to finish the first year.

Lucy's view was the same. She reported being upset at "not being able to make my way down to Lakeland College and finish off the two-year diploma down there."

The program, as a one-year certificate, apparently does not satisfy anyone's needs. Participants report that employers, for the most part, do not recognize the credential for hiring and participant's clearly expressed distress at not being viewed as competitive in the job market and recognized for their ability. If this school-to-work program was designed to ease adults into the work force while providing a smooth transition to employment and building on strengths, the comments of the participants identified what could be a program design flaw.

The Significance of Experiential Learning

The program's design incorporates theoretical classroom studies supplemented and enhanced by hands-on field experiences. The participants noted numerous instances of hands-on or practical experiences which they believed reinforced the theoretical classroom experience. All five participants cited incidents of active learning.

Gayle detailed her experience in the soils course which represented, for her, the value of tying classroom theory to hands-on practical experiences.

> The soils work we did, everything that [the instructors] had taught in class that we had learned, it made -- you know -- when you're learning this stuff, you're not actually doing it. You try to memorize everything, but when you actually get to the field and you're doing it, it put it all together. It makes more sense. Then everything just flows together. You know, all the information that you've gathered over time starts coming together.

In the above example, Gayle did not discredit memorization as unnecessary, and she does not necessarily place one type of learning above the other. She does, however, stress that the practical reinforcement provided the consolidation of the learning, resulting in the "flowing together" of the knowledge from both sources.

Celeste recounted, in a similar way, her time in the botany course from which she recalled, "I got to see a lot of what we learned in botany, saw a lot of that when I started working outside." The actual visual reinforcement re-emphasized the skills attained in the botany course, the sensory stimulation providing that "flowing together" to which Gayle referred. Celeste, reflecting on her experience in soils, concluded that her "outdoor" learning was, in fact, "better" for her than "classroom" experiences. She referred to "seeing soil samples . . . and some really interesting rock" and concluded "I learned way more going outdoors than I did staying in the classroom." Celeste gave further examples of her preferences for hands-on, active experiences. She contrasted the more passive aspects of the course with the more active components. While Celeste claimed that "the movie part of it put me out like a light," she also asserted that ". . . there were some outdoor field trips that I really did enjoy. We went to Crane Lake. We saw a lot of wild life." She further expressed her preferences by declaring "It would have been nicer if we could have gotten to see more outdoor stuff." For Celeste being able to actively perceive the reality of what she was studying was significant to her enjoyment of the learning experience.

Celeste went on to make subsequent points about the need for relevant experiences. She described that in botany she "would rather have learned about Alberta Rose or Western Wood Lily" because " those are the ones that matter, the ones we see every day." She reinforced this perception by identifying her preference to learn about concepts to which she could relate when she stressed, "I paid more attention to what she was talking about in the Arctic and coming down to the tundra, and then all the different species in the boreal forest."

This appreciation for the practical resonated throughout Nadine's reflections. In eloquent terms she described her first forays into the field to apply her knowledge of soils as the following quote shows:

> It was everything we learned when we were doing soils. We had just finished the soils course and so, again, to go out in the field and pick up and run it through your hands and spit in our hands . . . that was the ultimate job experience.

In her eyes the actual job experience became the focus of her learning and she continued to talk almost lyrically about the experience of being where her senses could perceive and experience. Her tone is almost reverential as she explained:

> Actually looking at the core samples they start coming into focus. It gives some understanding as to all the processes that shaped and created what you're looking at in the core samples. You can see it; you can touch it; you can smell it.

Nadine used the expression "coming into focus" while Gayle repeated the phrase "flowing together", but both participants were conveying the same type of clarification each gained from her practical experiences.

Nadine had no reservation about expressing her appreciation for the hands-on components of the program. She referred to the small engine repair course that she termed "basically hands-on." Nadine co-ordinated her characterization of that learning experience, which she explained in the terms of "you understood what you were doing with your hands and why you were doing it" with her perception of the experience as "different" because "you could come in dirty and monkey around." Although Nadine explained that she does not usually "go out and monkey around with her car or lawn mower," such experiences she concluded are "also confidence boosters" especially for women who are outside their normal hobby scenes." Nadine interestingly explained that the "do-able" hands-on experience convince women "there's no magic to it." For Nadine, the hands-on experiences in non-traditional areas de-mystified some aspects of learning. With the same underlying viewpoint, she referred to her soil experiences by saying, "With soils you could narrow it down in the field and go out, grabbing a handful and say, "Look, soil!" Nadine seemed to find the value of the hands-on in de-mystifying learning to make it real.

The ability to perform hands-on tasks was a validity experience for Lucy, Nadine, Celeste and Gayle. The performance itself, as they related their feelings about it, elicited from each an echo of Nadine's sentiment, "There's no magic in it." The resulting validation reinforced Nadine's further comment that hands-on experiences are "also confidence boosters." Lucy contributed her delight at being able to put her knowledge of environmental legislation to practical use. Her obvious delight at finding such an application for this knowledge both surprises and pleases her as she explained:

> At the end, I never thought I would apply this [law content] to anything practical . . . So I went to the Court House and I knew exactly where to look. I knew exactly how to find the information. I was tickled pink that I could actually put it to practical use.

Both Nadine and Gayle had similar encounters. Nadine, who had independently volunteered to work in a local lab, when given the opportunity to display these skills expressed her confidence in herself in volunteering for a job by saying, "Yeah, I can do it." Gayle was pleased that her on-the-job training supervisor was impressed with her ability to work with vegetation on the site. She expressed pride that her supervisor acknowledged when she related, "You know [the supervisor] seemed to be pretty impressed about that." Her reference was to the situation on site. She and her partner were able to contribute to a job project which she described as:

> People that we were working with were university students and we were, actually well K----- was my partner, and we did all the vegetation assessments because they didn't know how. A lot about trees and plants and stuff.

Both Gayle and Nadine found much personal satisfaction in being seen as capable.

Celeste was pleased with her ability to find an appropriate soil sample and to share this with her instructor. She lamented that "the only thing I found hard for soils was that we couldn't get a good soil sample here in town to see different layers of the earth." She went on to counter this disappointment when she found "that place in Thickwood where I took the [soil sample] one day."

Participants expressed both appreciation for learning experiences which provided sufficient hands-on experiences and disapproval for learning experiences which were not structured to actively engage learners. Gayle appreciated group activities that provided such experiences. She discussed two such experiences in the following excerpts:

> The people we worked with in the group were really professional; they took you along, taught you everything and let you do things on your own. Like after they showed us. That was really good. I made a mistake doing pH levels and he just kind of joked about it and we did it over; it was not a big thing. And I learned; I never made that mistake again.

Conversely, Gayle described classroom experiences that were not sufficiently engaging:

> Yeah, I think we should have had a little more lab experience. I would have liked to have had more time doing some different things. We did quite a bit, I guess, with our soils and stuff, but it was basically three or

> four people to a group. I would have liked to have more individual time doing procedures on my own.

Gayle provided support for her need for more lab experience when she described how she felt at the plant site and "because I didn't have enough experience, I didn't feel confident I could say anything." Without feeling that she had sufficient experience, Gayle did not have the confidence to speak out to contribute, but when she had mastered a skill, her confidence returned as she revealed in describing that her computer skills "came in handy [since] everything had to be entered on computers." This appreciation for the hands-on contrasted sharply with Celeste's statement concerning in-class experiences. "There was some [theory] I did not get. You know the naming of stuff was hard for me" and from Susan, the simple statement, "I really enjoyed the practicums."

Participants embraced the practical. Lucy, who quickly validated her own learning after finding an opportunity to put into practise research skills she never thought she would use. Celeste's case, with her appreciation of being able to find a soil sample herself and a site where soil samples were appropriate for study, can be considered in light of Knowles' suggestion that the student is the prime focus of the learning experience while and the instructor acts as a resource or factor in the experience. Consider that when Celeste took action, she solved her own problem; when she watched a movie, she dozed.

The participants in this study found the liberty to view themselves as learners who are initiators of education not recipients of education only after accepting reasonable responsibility to effect some action leading to some "magic less" accomplishment. Their pride in their accomplishments resonates in their language and tone.

The Need for Support Skills

Analysis of participants' reactions revealed a variety of statements which create a consensus that suggest there are many facets to learning beyond occupational skills. These support skills play a large part in participants' evaluation of learning success.

Nadine spoke of "communication skills". She pointed out, " We kind of did that . . . You can never have enough, no mater where you are or how much background you have." Nadine went on to relate improving communication skills to developing into a "team player" which she suggested is "what people in the work force" are looking for. Nadine pointed out that although learners "brushed up on academic skills in the first semester", they also "brushed up on… social skills", and "that is part of the well-roundedness of the program." What Nadine suggested echoed the Shared Vision thinkers' voice in that they concluded that reading and thinking bring about the growth of the human person which leads to a more socially efficacious employee.

Lucy identified two related issues. When involved in her practicum placement doing the raven study she remarked that she made several trips "to the Court House" and was "tickled pink" to be able to use her research skills. Using a library or other information system to effectively inform her work was a positive learning outcome for Lucy. The fact that Lucy's practicum required that she use this skill furnished support for the view that meaningful skills are those which give the learner a comprehensive set of skills from which to draw expertise in a variety of circumstances. Additionally, Lucy referred to her educational preparation before entering the program. She felt that "working on a genealogy program for ten years" while she had been "corresponding with people by written work" was good preparation. Lucy recalled looking back at some of her correspondence after the program and wondering with surprise, "How could I ever have written such a thing?" Lucy thought she "had come in fairly well-prepared" before she identified the need for better communication skills. Lucy concluded that it would be advantageous to do "a bunch of smaller ones [research projects] instead of "one big one"; that would have allowed participants to "have had time to put into having documentation done correctly."

Susan provided a related statement which supported the suggestion made by both Nadine and Lucy that communication skills are important for success. "The Environmental Law was a lot of reading. You read a lot of technical terms." It is easy to deduce from this comment that better communication and reading skills, would provide better educational support for participants.

Both Gayle and Susan pointed out that tensions arose as a result of clashes over work placement between two cultural groups. Susan noted that some very negative comments were made because of racial tensions as illustrated by the excerpt:

> (They said) 'No, I want the right colour, I should dye my hair dark, and then I'll have the right colour and they'll hire me.' and stuff like that . . . I didn't agree with some of that stuff but I didn't really say much.

Gayle recollected a similar episode.

> . . . Everybody was frustrated with each other. It was actually, that was when the Native/White issue came up and saying that maybe Natives weren't working as hard as the rest of the class and they didn't care because they were going to get work anyway.

It is apparent that there seemed to be a number of interpersonal issues at work within the dynamics of the group interactions.

Both Nadine and Celeste raised another important consideration that points out the need for computer skills, which can arguably be considered a basic literacy skill. Celeste noted that "by the time you got to do computer a lot of us knew what we were doing." Nadine added the comment, "I learned computer skills when I got into the field. We did take a computer course but it wasn't enough."

Nadine made one encompassing comment that sums up the need for education that is not restricted to skill set development. Nadine said, "It [education] is the enlightenment that you need for survival and integration and everything that is about being alive and participating in life." Indeed, Nadine's comment is significant in light of the view of Parnell (1993) who talks about the need to provide academic theory balanced with occupational skills to create a well-rounded person. The need for communication, research, computer and conflict resolution skills was identified by participants' comments. To provide this well-rounded education to occupation specialists is in line with the philosophical underpinnings of the Adult Skills Alberta (1998) vision which will guide adult education in Alberta.

Relevance to North Eastern Alberta

Participants formed various opinions about the relevance of the experiences they had during the twelve months of the program to their real world needs. One recurring theme which emerged from their reflections was on the fit between course offerings, including practicum work placements, and their views and opinions about working in the northeastern region of Alberta. All participants reflected on this issue of relevance of course materials to their home area, their work futures, and the future of the program. Their concerns tended to fall into one of two categories: relevance of experiences to the Boreal Forest Biome, and relevance of experiences to the geophysically significant aspect of water in the environment

Relevance to the boreal forest biome

Participants' comments revealed a strongly supported argument for the program remaining consistent with its original mandate of preparing workers to work in the boreal forest. Participants suggested strongly that much of the material in one course was not relevant to the boreal forest due to curriculum materials and an instructor not familiar with area concerns. On the other hand, participants valued experiences which provided them with regional knowledge.

Nadine's main issue resonates through her various comments, particularly the following one:

> Our study should have been on what is happening out there today, what will be our requirements, how we can apply ourselves and be part of what is going on out there and help us to understand it. Not, oh . . . "When I was a kid in the 30's I used to go out and shoot bulls on the plain."

Nadine's views about the value of relevance to the personal situation of the learner in the learning situation was often repeated in her comments about some aspects of the Natural History course, which used a text concentrating on the work of a naturalist working in Wisconsin. She felt the course was "totally irrelevant to our area. It missed the point. We are sitting in the last great forest of the planet."

Other participants referred directly to the material in this course. Susan and Gayle made reference to the same material, which they cited as " "irrelevant" and " outdated". Lucy concluded that she had a "lack of faith in the material".

At issue among several of the participants was the issue of a particular instructor's lack of tacit knowledge and acquired knowledge about the Boreal Forest Biome. Gayle, like Nadine, spoke of the "irrelevancy and inaccuracy of material" in the Natural History course, but Gayle felt that "there were a lot of us who didn't have much faith in [the instructor]. She was teaching stuff that didn't seem right." Gayle felt there were problems because "[The instructor] wasn't from this area. And I think that made a big difference in what she was trying to teach us." In Gayle's view, the instructor's lack of knowledge stemmed directly from her newness to the area.

> I don't think [the instructor] knew enough about Canada (natural history) or anything to do with the course. A lot of the examples she gave us were from the United States because that's what she knew and it was really hard to relate.

Lucy adamantly supported this position. She pointed out numerous examples of instructional inaccuracies in the natural history course, citing these as reasons for "lack of faith in the material."

> In a lot of cases when I read the textbook, what I got out of it was totally different from [what the instructor] taught us. So I didn't know which was right. For instance, she said at one point that the prairies extended right up the Arctic Ocean. Anybody who lives in Alberta questions whether the prairie extends up the Arctic Ocean…

Celeste addressed this issue in her discussion of her experiences in the courses. She felt that the instructor was "from the United States…and has no idea about our natural history." However, Celeste felt that the experiences she had in the course were positive because of the outdoor activities within the region, "Yeah we did go out to lots of places. We went for lots of different walks." Celeste gained enjoyment reflected in the following statement.

> There were some field trips I did enjoy. We went to Crane Lake and that was a lot of fun. We saw a lot of area wildlife out there; it would have been nice if we had gotten to see more of the outdoor stuff.

Celeste felt that the Natural History was good because it did focus on Canada. Celeste's statement stood in opposition to remarks made by Gayle, Nadine and Lucy who strongly remembered impressions of material from Wisconsin or inaccuracies in material. Celeste, referring to the inaccuracies in passing, did not seem to find that they detracted from her enjoyment of the course. She did, however, appreciate the aspects of the Boreal Forest presented and interests as revealed from the following excerpt from her reflections:

> I did like the Natural History. We got to learn about the stuff that was across Canada. And with the glaciers retreating and coming down. And we got a really interesting book. Actually I picked up that book in the store and it showed like six billion BC to present day how the glacier came down and retreated and created our biome. I thought that was really interesting.

Celeste, unlike others in the study, spoke of a sense of ownership of the biome and of needing to make meaning of the place where they lived in terms of how it was created and continued. Celeste's enthusiasm for learning about her area was further stated in the following passage:

> And how what striking differences were there and I thought that was really cool. And there are the species in the boreal forest that nobody else has. Yeah, I thought it was kind of neat and I really liked that course [Natural History].

Reflecting the need to present information as relevant to the particular area of study under consideration are two comments from Nadine and Lucy. Nadine's comment referred to the terminology presented to the class. She reported that "they were using Russian terms to describe our forest boreal, emphasizing that it was the same type." It is interesting to note that the use of Russian terms posed a problem since the presenters were likely making the case that the Russian northern forest and the Canadian northern Forest are similar. Yet again, Nadine took exception to the terms used to describe "our" forest. This emphasized the participant's sensitivity to the uniqueness of the Boreal Forest of Canada and pointed to a need to see the Boreal Forest within a regional context using regional references.

Lucy's comment concerning the misuse of terms naming the geographical components of Manitoba lent support for the participant's need to have an understanding of the region as part of Canada. Lucy stated:

> Again it has something to do with geographical features. [The instructor] explained that there were three prairie levels in Manitoba making up the prairie. The names she gave us were entirely different from what was written in the text. …The Manitoba Escarpment was actually the strip up the mountain region between the two.

Whether the perceived fault originated from inappropriate choice of textual support or from the choice of an uninformed instructor, there seemed to be a real concern on the part of participants that reference to the Boreal Forest be accurate, referenced accurately to the rest of Canada and presented in terms that are Canadian in origin. The participants' comment reflected a deep need to study their relevant area and to understand geography and environmental concerns common to that locale.

To ensure that the geography presented as part of the program promoted an understanding of local environmental concerns, Nadine suggested that research done on the area form the basis of natural history readings rather than references based on historical data collected in other regions, like Wisconsin.

> For instance, the company I was working for in Calgary had two floors of library material that was based on baseline studies that have been done in this region over the last 10 to 15 years, as a result of industry here. Now why couldn't we look at some of this material?

Susan and Nadine identified ways to increase relevance. Nadine reported, "you can get a lot of information from the University of Calgary and other universities that are doing research on it (industry in the region)." She suggests this would make the course more meaningful for participants. Susan, indeed, specified that much of the material she enjoyed encouraged reflection on the area. She remembered, "We used the field book a lot. We used, what was it, something on plants and whatever in the Boreal Forest. …". Susan concluded that her reflections make her realize she "learned a lot about everyday." She goes on to say that the knowledge of the environment made her " see it in a whole different way."

Sustaining interest in the program and relevancy of the subject matter by dealing with the participants' home environment seemed significant to all participants. Detractors such as irrelevant studies, uninformed instructors and inaccurate data were not acceptable to the participants whose comments indicate a strong need to be able to apply their knowledge at work or in their personal lives.

Significance of water study to work placements

Participants' revelations highlighted the special effects that water, as a geographical component of the area's environment, impacts learner preparation for work placements and practicums. They indicated that the absence of information on water was one significant deficiency of the program.

Susan, who participated in the hydro seeding project at [a local oilsands plant], identified that "at [a local oilsands plant], it was all hydro seeding." She was concerned that there were no hydrology courses offered to prepare participants for both present and future jobs at the major employers, [in the area]. She said:

> Especially in the Steepbank Mine and the Aurora Mines, the two expansions, I think they are going to have a lot of water sampling and what's in the water to determine the effects of pollution these two mines are making. Of course, [a local oilsands plant] and [a local oilsands plant], as they are now.

Susan felt that her knowledge of water was lacking after she looked at the text book of her supervisor's at [a local oilsands plant] and noted, ". . . I had taken a look in her hydrology textbook. Stuff of what water was composed of, we didn't have that."

Although Susan acknowledged knowing something about "water insects", she went on to say that "what water is composed of in a wetland, I wasn't aware of the water stuff."

Susan had occasion to discuss the lack of hydrology with this same supervisor while on her practicum placement. She cautiously suggested that inclusion of hydrology would be a good idea citing the supervisor's recommendation and support for this position.

> Actually there was one comment I wanted to make. This is what Trina, my boss, had said. She said it would be helpful if you had a hydrology course in there somewhere for water because there was a lot of water and it would have helped, she said, if you did. So that's just a comment she made. Mind you, that course is only 12 months, right? It's hard to say, but she said some kind of hydrology course, water course would really help this course.

The comments of the other participants echoed the concerns Susan and her supervisor expressed. Lucy, who worked at [a local oilsands plant], corroborated Susan's assertion that "there was a lot of hydro seeding." Lucy also pointed out that she worked in "erosion control at [a local oilsands plant]." This area relies on characteristics of water to make decision about preventing its erosion effects. Lucy's second practicum was with a naturalist, who conducted bird flight patterns. Although Lucy didn't refer to water knowledge as important to this study, her partner on this practicum, Gayle, did when she said, "We were doing a lot of, like we were in water a lot of time doing bird flight and algae samples and stuff."

Although Susan most strongly expressed the need for a water or hydrology course, Celeste made several comments reflecting on how her work experiences focussed on the need for water preparation as part of course work. Celeste referred to meeting "an aquatic ecologist, at [a local oilsands plant]," and although she did say, "I think [a course improvement] in the hydrology part [is necessary] because that [water] is a big part of life up here," her main concern was the inclusion of some kind of aquatic ecology, as the following comment revealed:

> Aquatic Ecology, that's the only thing, like I said we did touch on the water bugs a little, but where we were working, that's all we were doing. We were in the water with the little creepy crawlers and we identified, our boss out there. She helped us identify so many things . . . but came to the water bugs, we were kind of like, I know five of those off by heart from what we had learned in ecology. The rest of them we didn't know. It's quite fascinating to find out larvae are actually in water and that they climb up and rest until their wings start, then they fly off and stuff. Yeah, it was pretty neat because the whole [water] trenches were just covered. There were billions of them. That's what we were walking through all the time and it was damn gross.

Celeste found herself working in an environment that was clearly water-based with organisms dependent on water to complete their life cycles, as part of the land reclaiming process at [a local oilsands plant]. Her comments about this experience revealed how much of her time was spent in active study with marshland concerns. "Yep, we [were] in the wetlands" she completed her discussion.

Another of Celeste's comments pointed out the significance of knowledge about water to the job site. A biologist actually took time to give instruction to participants about this part of the job. Celeste described, "He showed a little bit about the water stuff out there and I thought it was really neat when he started teaching us that stuff." Celeste's experiences with wetlands led her to conclude that her experiences would have been better if she had "learned more natural botany." Celeste's comments on "twenty common species that were in the forest all the time and that we could find in natural wetlands or reclaimed wetlands" led her to this conclusion. She felt greater relevance would be the result.

Susan expressed the opinion that "the city is mainly [a local oilsands plant] or [a local oilsands plant] [serving]" and any activity performed at Lake Athabasca or beyond required some water knowledge. Her point is that the industrial sites require environmental studies to be conducted throughout the northeastern Alberta region and the region is significantly aqueous.

Gayle and Nadine raised two other comments which speak to the wide use water chemistry has in the work place in the area. Nadine referred to the fact that core drilling under the salt layer led to "faulting" which, of course, required calibration of equipment because "salt had been dissolved away and had been flushed away by water." Finally, Gayle referred to an error she made while working with [a practicum supervisor] at [a local oilsands plant]. Gayle said, "I made a mistake doing pH levels and he just kind of joked about it and we did it over." Obviously doing pH of water was an employer expectation of participants, as revealed by Gayle's experience. The employer showed her the right way by "doing it over." The need to understand basic water skills seemed consistent throughout each participant's experiential recollections.

In conclusion, all participants who specified that water chemistry or hydrology was needed specifically referred to experiences gained from their work practicums to substantiate their concerns. They clearly indicated a lack or deficiency in the classroom experiences, a lack that was a detractor from their level of comfort in their work place relationships due to their lack of understanding of the complexities of water.

Group Interactions

The statements of the participants in this study provided substantiation for the contention that this group of environmental worker students experienced stages of group evolution. The participants experienced interactions as group members which, reportedly, affected them both as individuals and as group members in other environments. Lucy provided a description of the group's growth in the following insightful statement.

> In the beginning we are all strangers and so quiet friendships grew. People really weren't sure how far they could push other people before setting them off, and so people were really careful. It gradually got so you became more familiar with people -- how far you could push them before they'd explode. Then I noticed during the second semester, maybe because tensions were a bit higher . . . and I have a feeling sometimes that coffee breaks would have given people time to expel some of this. But I felt that during the second semester, especially that it was sort . . . people knew how far they could push other people and tended to push them to the limit. Maybe that's something about the pecking order. It was definitely at its peak during the second semester . . . poor [instructor's name] got the brunt of it all. By the third semester I thought things calmed down again and people had sort of established the pecking order and things sort of fell into place and they got back into learning again.

Groups, according to Bion (1961) and Schutz (1971), form as individuals establish why each is there so that they can invest in relationships based on similar interests, needs or goals. Gayle presented her impressions of this group's interactions in the following passage:

> I think when we started the course everybody thought, everybody felt like they were different from everybody else. After we got to know each other,

> we got to realize we're all moms, we're all older . . . after a while basically everybody just kind of knew everybody's problems, everybody tried to help out and everybody realized that we weren't different.

Gayle later described her impressions of how the group continued to grow through its conflict stages, supporting Lucy's version of the group's development.

> Second semester, I think the workload we had… a lot of study. The courses were tough and I think everybody started getting real stressed. Maybe we were spending too much time together. It seemed like we had …a month where everybody was really on edge and frustrated with each other. It was actually when the Native/White issue came up and saying Natives weren't working as hard as the rest of the class and they didn't really care because they were going to get work anyway . . . Then when we went back after the work placement, it was like we are all right back to normal again . . . But we had a month when it was really stressful.

It is apparent from Gayle's comments that the group was evolving through stages. It is possible that cultural conflicts arose as a result of the close associations among group members and the conflicting perceptions of the participants about who would be successful in securing work placements.

Susan added her own impressions to the group interaction dynamics. She perceived that because "all these people had been together for three semesters" that they were "getting into squabbles and stuff. They were ruining it for the whole class." A plethora of participants' comments surfaced throughout the text of their recollections which provided further clarification of the dynamics of the group's interactive development. For example, Nadine made reference to the beginning stage when she commented that "[relationships] formed because we had some commonalties or similarities, or we also shared some similar interests which is something that draws people together . . . right from the beginning." Nadine also commented that the group was "almost like a family because of the processes that [they] went through. . . "

Lucy felt that the change in group dynamics had a negative impact on some class members who were being treated badly in the group. "In the first semester" she suggested, "they didn't get picked on quite as much." As the group spent more time together, these conditions worsened. Lucy noticed that "people were being picked on and ridiculed in the second semester; it eased off a little bit by the third semester." Clearly from this comment, it appears this group experienced an escalation in incidents involving conflict in the second semester, which decreased as they spent more time together, as would be predicted by the model, suggested by the theory presented earlier. Toward the end of the third semester, Gayle reported that, "It became a group thing." As Gayle recounted, "everyone felt like everybody had to pass; everybody had to do well. It wasn't just you do it on your own." Apparently the group seemed to be forming cohesiveness as time progressed.

Susan identified the increased stress of the second semester as the group continued to interact. Echoing Gayle's earlier discussion of inter-cultural conflict, Susan clarified that the origin of this issue was in the second semester. Susan lamented, "[Racial tension] got really bad at the end of the second semester before we went on our practicums." This statement confirmed Gayle's assessment that the tension increased prior to the practicum placements. Susan was "offended" at remarks that were "racial" over which "people would start a big fight." Susan's discomfort with the conflict over the racial issue was apparent in the comment:

> . . . oh, we're Native this or we're not going to get this because we're not Native [people said] and that's when it started, so I don't know. I don't know what happened. And that's when it started to get in everybody started to get really verbal.

Susan characterized interaction at that time by saying ". . . everybody was all riled up." Clearly tensions were running high among the members of the group and agitation led to relationship tensions at a time when the group was testing its decision-making ability. It appears that the animosity described between Aboriginal and non-Aboriginal learners may have developed as a result of perceived competition for job placements. Due to the complex nature of the group interactions experienced in this context, the tensions may be thus anticipated, and possibly interventions may be constructed for future cohorts.

The Move Towards Independence

All five participants functioning with five different perspectives began the program looking for employment, challenge and purpose. Each identified personal growth in detail citing examples to demonstrate how various activities within the program eventually led them to a renewed evaluation of themselves and their ability to use skills to take advantage of opportunities presented to them, to face challenges and to find new purpose.

Characterizing the observations and reflections of each participant was a self-revealing introspection. These reflections resonated throughout their testimonies, creating a sense of participants' individual growth into their new selves. Nadine's poignant comment that "change is absolutely essential to grow," and her confirmation that "that's where risk comes in," summarized her internal metamorphological journey, certainly, but also crystallized a strong recurring theme of experience shared on an individual level by all five participants.

Awakening of the voice.

Susan, Gayle, Nadine, Celeste and Lucy heard about the school-to-work Environmental Worker Program when there were at crossroads in the career decision-making processes. Susan who "work(ed) as a labourer . . . for the past three years" saw the program as an opportunity "to do something else. . ." Her background involved some adult education up to "grade ten" as well as "a medical receptionist [program]" five years later. None of these attempts, she concluded, "seem[ed] to be working out for the type of job [she] wanted to get into."

In Gayle's case, the process was interesting because she saw herself as a "housewife for ten years" and she felt . . . "it was time I got out." Although Gayle saw herself as "a really shy person . . . [who] didn't have a lot of confidence," she made the decision to "try it and do well."

Like Gayle, both Lucy and Nadine were at home raising families. Lucy had been away from school "since 1978" while Nadine said that she "hadn't been in school for over twenty years." In Lucy's case she "want[ed] to be a tree doctor." Her reaction to the program was that it was "right up my alley." Lucy's background in rural Alberta in a quiet area did not prepare her for her adolescent transition to a high school experience she characterized as "a nightmare" because of "teasing." Lucy was carrying residual feelings of anxiety ten years later as she made her decision to return to a learning environment. She wanted "to be something but" as she qualified, "I didn't want to go through the nightmare again and I had no idea what college was." Nadine, on the other hand, was, as she asserted, "quite comfortable with myself." She reflected on her attitudes before the program by suggesting "I could do things before, but I didn't challenge myself." She thought that she was "just coping with things." She had, as she reflected on it, "created [her] own little world of comfort" to deal with "stress" of her personal [family] situation. She felt, "I didn't challenge myself with things outside my own space because it was stressful coping with the situation I was in."

For Celeste, enrolling in education was not a new thought. She had applied unsuccessfully to another program "to get into travel." The school-to –work program "talked about environmental work" which to her "sounded kind of interesting", and so she applied. Celeste described herself as lacking in "self esteem" before the program. She worked at "a job earning $5.00/6.00 per hour" with "a child to support." She went on to say that "with all that happened" she thought she " was stupid and pretty much worthless." Celeste reported that as a child she "didn't want to be a ballerina . . . a doctor or a lawyer." She thought she would search for her interest in life by "taking this program"; at least she would have a year to find out what type [of job], if any, in the environmental industry she might like.

In response to the request to self-evaluate after the program, Gayle offered "Oh, I'm a different person, a completely different person." Gayle stated that "going back to school made a big difference." Gayle attributed her ability to "having faith in herself" and "know, okay, I can do this" to being successful in the school experience. Within the numerous examples she provided to clarify her assertions are threads of how the educational experiences gave her a new perspective not only on her employability, but also on her personal efficacy. She cited her belief that she is more likely to take initiative and actively participate in activities, which previously had not been accomplishments, she considered she could master in her personal life. Gayle commented, "It's different. I guess I'm more handy to have around now." She referred back to the "mechanics course" and said, "I know that kind of stuff now. I know what [my husband] is talking about now. I know what a crankshaft is." The liberation Gayle perceived allowed her to "picture it [the mechanics] so became " a lot more fun". When her "quad broke down", she "went out and helped [her husband] fix it and did an oil change on the lawn mower." Gayle perceived that "life's more interesting" and she is "a lot more fun." In contrast, Gayle described herself as "a boring, little housewife" prior to enrolling in the program. She felt she "didn't really have anything to talk about except the kids."

Gayle's experiences were not unique to this group of participants; they are, however, interesting in light of much of the theoretical framework provided by Mezirow (1985, 1990). Mezirow proposes an emancipatory concept of educational participation that finds resonance in the words of this participant. Gayle referred to her ability to speak about topics of interest. She attributed to her learning experience the freeing of her communication abilities and from there a development of a new exploratory attitude that provided the impetus to try new ventures. Gayle went from not speaking and not understanding about "crankshafts" and "mechanical" tasks to actually performing them either as a team member or by herself.

The Conference Board of Canada (1996) addresses the development of employability skills within the framework of three domains, including academic skills, personal management skills and team work skills. Within the second domain, personal management skills, it identifies the development of personal initiative-taking behaviour as a desired goal of educational programming. Gayle's self-evaluation would appear to support that her personal growth was as a result of the program which provided her with a new range of skill sets which, according to Gayle, "gave her a new attitude." She admitted before the program, with reference to mechanical skills, she would have said, "Oh, no, I can't do that," but after the program she reported having the confidence to try new activities like "scuba-diving" or repairing equipment. Gayle said, "I would never even have wanted to try anything like that before." Gayle's experiences led her to conclude she had "gained the friendships, education, a different lifestyle . . . a job which was really good pay."

Recognizing her maturity as something that "does wonderful things for a person," Lucy described how she gained "confidence in being able to deal with people and bounce off ridicule." She contrasted how something said ". . . in high school would have devastated [her] for the whole day," while during participation in this program she thought, "Hey, I'm in college now", a thought which gave her an entirely different perspective. For Lucy, the awareness of the academic experience as a college experience provided her with the confidence to view relationships and interactions differently. Lucy saw her early academic successes as confidence building and referred to her own "maturity" in dealing with the relationships and interactions that inevitably grew from the participants' activities. Lucy's contrast of the relationship interactions in high school with those in this program surfaced for her an awareness of her own "maturity" which, in part, seemed to change her own reaction to the negative comments which she reported would have "devastated" her in high school but "don't even phase [her] now."

Nadine, echoing earlier comments Gayle made, described herself as "a totally different person than when I started." Nadine expressed no regrets for the transformation stating, "I'm so glad that I stepped out and there's no going back." Nadine illustrated with rich descriptive detail the changes she perceived in herself. Her description highlighted that she "has changed … shift or … focus." The comment, " I don't think I'm so important. I think what is out there is much more important" is revealing. Nadine viewed some aspects of the academic experience as "strip[ping] away of your ego" that "takes away who you thought you were." In Nadine's experience growth leads the person to "recreate yourself" which the personal development course encouraged in "the self-exploration journey [participants] went on." Nadine came "face to face with some of [her] own thoughts and some of [her] own perceptions and how [she felt] about other people." For Nadine this was "a good thing" because she "used to be in her own little world." As a result of this self-exploration she "learned how to deal and converse with people and participate and make friends." Mezirow (1990) emphasizes the effect of active communication on the transformation process. Even though Nadine was operating at a high level academically, the self-exploration journey in the personal development class gave her the opportunity to participate in class in a way that encouraged her to self-evaluate. Nadine characterized this developing ability to "converse" as "one of the more profound changes" leading to " getting back out into society."

Nadine expressed strong opinions concerning this area of the exploration. She discussed her views of education as an "enlightenment" that comes from participation in the educational process necessary for "survival and integration and everything that is about being active and participating in life." In spite of the fact that she was "ready for retirement, interested in gardening . . ." she appreciated that attending "an [educational] institution gave [her] that little push." In Nadine's opinion the freedom to make choices and "to set your own limits" results from "what education teaches you about yourself." Nadine experienced the freedom to "set limits" and "to make choices." Mezirow (1990) reveals an emancipatory process which derives from discussion of new knowledge sets and achieved communication. Nadine's comments on "openness and the work -- the self-searching and stuff . . . which drew us out of ourselves." echoed this concept. Nadine's version of the personal development course included the description of it "as a phase of finding out more about myself or pushed to do something I was uncomfortable with and that was it." She ultimately understood the exploration as "having a reason why." What Nadine eventually determined is that "change is essential" and that "it involves risk." Her metaphor of the cyclical progression of risk to change to further risk seems a fitting description of her emerging philosophy. The change Nadine found within herself give her the ability to self-evaluate, to pinpoint her weaknesses and to create her own understanding of her process of change.

An example of Nadine's heightened awareness of her own ability to react can be derived from her reflection on the curriculum of the Environmental Law course. Nadine was stunned to discover that the Environmental Protection Act is "not worth the paper it's printed on." Nadine expressed her animosity toward the bill describing that the general public "didn't have the tenacity or intelligence perhaps to understand it." Nadine's passion seemed an indication of her own newly found freedom to question as she commented "I was so [upset] with all that crap; it stopped me from learning." Nadine reflected on her own immobilization by saying, "I inhibited my own learning by coming in with this attitude that the government is so stupid in its thinking that we're actually going to buy into this." Nadine's strong opinions were an inhibition to her learning, as she related, but she reported that eventually when she "could talk [to the instructor], then it was okay." In Nadine's words is her exploration of new knowledge that caused deep feelings leading to the need to communicate with her instructor. Although she did not resolve this as an issue, she concluded from her experiences in the program "participating in any courses or program at college further your knowledge of your learning and stretches your ability or taps you into something . . ."

The Conference Board of Canada (1996) addresses not only the need to develop initiative-taking behaviours, but also the need to express integrity. Nadine clearly expressed that those in a position of authority should be accountable. Her reflection of her own growth and awareness of the "big picture" demonstrated that involvement develops from viewing issues from multiple perspectives. Although the issues Nadine perceived with respect to the law course caused serious cognitive dissonance for her, she clearly had made up her own mind to discuss the issue and address concepts associated with integrity and accountability.

In response to the question of how the program affected her on a personal level, Celeste acknowledged " pretty low self esteem" that caused anxiety for her as she approached the academic experiences. She reported feeling "stupid and pretty much worthless" at the outset of the program, but Celeste characterized the change she perceived in herself as "huge" and "complete" after the program. "Close to rock bottom" as she could be, she felt acceptance into the program was "a big boost" to her self-esteem. The change, according to Celeste, resulted from finally finding an area of interest that captured her enthusiasm as she reports,

> . . . And on our very last day I knew. I mean, right then, I knew I wanted to go into biology because it was so much fun and I had such a blast catching these bugs in those trenches, up to my waist in water, muck up to my knees, could barely move, falling in and getting totally filthy, screaming because there were spiders crawling up my work boots . . . I was having a great time.

Celeste attributed the actual decision to pursue this discipline as emancipatory for her. She felt that she had gained insight into her future needs and, from there, numerous avenues opened for her.

> Another thing that it taught me, which I didn't know I was capable of, was that I can work really hard. Instead of sitting on my lazy ass all the time and not doing anything, that I can actually work really hard and really enjoy that work,... by the end of the day, boy, oh boy, did [I] feel like I'd actually done something worthwhile. You know . . . your legs are kind of rubber. You can't walk around much. It was a good feeling of satisfaction.

For Celeste the combination of finding an interest and realizing the validation of being able to perform provided a sense of liberation which she expressed in the comment, "I could do it so I can do a lot of other things too." The resultant liberation was, for Celeste, a motivator toward further studies and an improved sense of self-worth.

Underlying Celeste's sense of growth is the success she had with the academic skill sets in the program. She felt, "a lot of it was being able to comprehend what was being taught. A little light bulb goes off inside your head." In fact Celeste translated her own success into a desire to reach out to others as the following passage revealed.

> Oh yeah, I can actually understand that. And the more I understood, the more I wanted everybody to understand. So I would go "If you don't understand, come on over and I'll try to help you to understand too." I wanted everyone do well . . . I started to feel pretty good about myself.

As in Gayle's case, Celeste created a connection between increased success and increased ability to communicate more effectively. Celeste described:

> . . . I did have bosses and I did have co-workers. Instead of speaking my mind I'd let it slide. . . . So I speak my mind. So I think now. I've learned to be confident, I guess that's the word I'm looking for. I speak my mind because if something is not right and I know it's not right and it's going to cause a problem, I think. . . . This happened when we were working in the Wetlands. Our boss was very intense. . . . She was constantly going and she was frustrated we were a little slower. . . . We had to sit down and explain to her that we were students. We were just learning how to do this . . . If we're slower, it's because we are inexperienced. . . . She [replied] 'I never thought of that before . . .' so speaking my mind kind of put everybody else at ease. . .

Celeste observed that her individual growth stemmed from her increased confidence in her academic skills and from the self-reliance she gained from this knowledge. She openly acknowledged her increased social competence at "speaking her mind" and in having the assurance to "think" and to act on her opinions. In the instance cited above, Celeste felt that she could assume a leadership role and speak on behalf of the group. The Conference Board of Canada (1996) cites developing such behaviours as a recognizable goal of educational programming. Stemming from her sense of efficacy, derived from academic success, Celeste assumed the leadership role and spoke in order to mediate a change reflecting her decision-making, leadership capability.

When Celeste described her reaction to academic courses she referred to the fact that she translated her own mastery of these academic skill sets into the ability to tutor others. According to Celeste "by the time [participants] got to do computers a lot of [them] knew what [they] were doing." She further explained that "people actually in computer classes . . . were asking [her] what to do" Celeste was delighted that she "could tell [them] what to do" because she " knew how to do it." Celeste's reflections were consistent with her impressions of how her academic successes actively translated into a greater feeling of self-worth.

Celeste realized a greater part for herself in the world from her experiences in the program. She stated, "And there's so much going on, not only here but around the whole world that I could contribute to. It only takes one person to start." Indeed Celeste viewed herself differently from the way she saw herself before she began the program.

Susan, like Celeste and Gayle, equated growth in knowledge with growth in confidence leading to the ability to effectively communicate. Susan felt that she "has a lot more confidence now." In moving to the job site Susan expressed comfort because as she expressed the situation, "I knew my stuff as I didn't feel nervous of not knowing it."

Susan viewed positively the personal development course in encouraging the participants to "look into themselves" as one reason for her increased self-confidence. In fact, Susan suggested that in this course she ". . . learned to communicate." For Susan who characterized herself as a "serious person" and a "shy person" who "wouldn't say too much," the personal management course gave her the opportunity from which she "learned to speak [her] mind . . . and say, "Hey, that's not right!" By "saying [her] piece and clarifying" she gained confidence to be herself.

The cognitive dissonance Nadine expressed when she was learning about the actual tenets of the Environmental Protection Enhancement Act contrasted with the confidence-enhancing experience Susan described. Both statements, however, reflect a change in each participant's viewpoint brought about by formalized reflections on past knowledge brought into focus by the acquisition of a new perspective. Nadine expressed amazement at the realization that "these people that are making decisions about our environment have no understanding about what they're deciding." Her belief that it is "economy over environment" and that the public is "ignorant" about the Act's weak position on environmental issues affected Nadine profoundly. In another passage Nadine concluded that her philosophy had changed to reflect a more active stance. She related:

> [People should] stop crying in the bucket and do something. Take a more pro-active look at the situation than a reactive kind. "Oh, it's too bad it's gone ['a field of wild flowers']. Get over it. This is what we have left. Let's learn about, let's help be part of the solution.

Nadine had, in part, reconciled her former expectations with a disturbing challenge to her belief system and had reached a more "pro-active" mind set. Susan learned to question while Celeste went from feeling "worthless" to assuming a leadership role.

Perhaps the most startling revelation of mind set modifications was apparent in Gayle's self-evaluation. Gayle's reflection on her attitudinal changes even included viewing herself as more attractive or "slinky," "younger," and more able to invest herself in new behaviours. One passage from Gayle's experience defined this attitudinal change:

> I was chairperson at the kids' school . . . Before I just sat there and said "Welcome to the meeting." I didn't have the guts to say 'no'. But when I went to school I was thinking, "I know what I'm doing, … It was fun and at the last… I gave ideas and talked and I wasn't afraid to disagree with parents. For four years I sat there and agreed with everything verbally. In my mind, I didn't agree with it. …For the first time, I could actually say, "No, I think you're wrong. I don't agree with that. I think this would be a better solution or idea." I never did that my whole life. I never disagreed with anybody. Always just let them think they are always right. I don't do that anymore.

Growth in confidence.

Gayle experienced a growth in confidence which she attributed to her school experience. Perhaps for Gayle, the act of being in school was stimulating enough to shift her focus and encourage her to reflect critically on her assumptions about herself as "boring, boring", or "the shyest" until having "shocked" herself by "actually speaking," she experienced a new sense of self-reliance. Gayle concluded that, as a result of her experience, "Life's more interesting," and she is "a more independent person."

One of the more interesting aspects of Gayle's change in perspective is her reinventing of her role and her self-concept. She characterized her life prior to returning to learning as "in a little shell." She reported that she was "busy going around making sure that everything was neat and tidy in the house and there were cookies." After her educational awakening Gayle changed her attitude as indicated by her comment ". . . I don't care about housework." In addition, Gayle tried to understand the changing dynamics of her family when she said, "Our family is closer, I think. I'm away more, but the family is closer, if that makes any sense."

Celeste contrasted her attitude before and after the program. She reported that she had been rejected from [an educational institution] to which she had applied. Celeste suggested that before the program she "would have expected to have gotten rejected," while after the program she expressed disbelief that "they didn't want her." Although she expressed "disappointment" at the rejection, she felt angry that she wasn't accepted, characterizing the school as "stupid." She reported an "effect" on her self-esteem, but instead of expressing this as the immobilization she reported earlier, she expressed that "she would just ace it [the program to which she applied]", if she had been accepted. She did not see the rejection as a personal slight, but as an evaluation of the program she had completed as inadequate preparation. Prior to participation in the program, Celeste described herself as "stupid" and "pretty much worthless." This certainly contrasted sharply with her perception of herself as a good student who would "ace" the program into which she was not accepted.

The participants consistently reported a change in perspective which awakened their ability to reflect on their growth and its effects on their personal lives and on their job roles.

Summary

From recorded transcripts participants identified nine themes distinct in terms of program impact. The nine themes overlap in several areas since reasons for one theme include support for another. Participants describe the transitional nature of the program. Since the target audience is predominantly adults returning to learning, they identified as desirable keeping the preparatory semester although they present strong evidence that it should be upgraded in degree of academic preparation but not at the expense of providing for participants' confidence-building activities. Participants noted that instructors had both positive and negative impacts on their activities; however, they cite job experts at the work site as the most informative. Participants identified that experts have formal classroom training needs, and classroom instructors have area specific knowledge deficiencies. This theme ties directly to two other themes. Participants acknowledged that decisions made by administrators in poor choice of instructors led to many of these instructional issues. Related to this theme is another of the participants' concerns. They felt that curriculum should focus on the Boreal Forest biome and regional concerns with the stress on experiential activities. Participants criticized decisions made in program design such as the decision to introduce the program as a one-year certificate rather than a two-year diploma. Participants, citing employer concerns, expressed the desire to see the program expand to a two-year diploma with a well-rounded approach by providing support skills. Finally, participants' statements provided evidence for both personal growth and team and group development. Parts of the program which encouraged this growth include personal development courses and on the job training opportunities.

CHAPTER 5

Conclusions and Recommendations

From participants' viewpoints nine themes emerged, describing the unified perspective participants expressed concerning their experiences in the program. As with the theme development in the previous chapter, organization in this chapter occurs on a theme by theme basis with evidential theoretical support provided from previous research to try to provide context for the participants' viewpoints. Recommendations suggested provide a guideline for program modifications, but they do not take into consideration data from sources other than the participants, and it is understood that implementation of any modifications must be made in consideration of institutional perspectives, employer needs and budgetary concerns. There are, however, nine themes consistently supported within the participants' testimonies, many of which reflect historical and current trends found in the research literature on adult education. The resonating similarity of many of their ideas concerning the programs structure and format form an interesting perspective for those reviewing the success of this program initiative.

Thematic Conclusions and Recommendations

Transitions

The transitions from an out-of-school lifestyle to a school lifestyle and from school to work were revealed as important considerations addressed by participants during their discussions. Forming a third theme was participants' view concerning their ability to become team players in the work environment. Framed in evidentiary support from previous literature the following discussion focuses on the question of whether or not the transitions were appropriate to the program's purposes and on the question of whether or not there is sufficient evidence from participants' expressed recollections of their experiences to draw meaningful conclusions.

Upgrading as transition to college.

As adults returning to learning from either short or long absences, the participants of the program expressed both apprehension and excitement in their recollections of the perceptions about beginning the program. Each expressed the view that she was unsure of her ability to succeed in the world of environmental study. Celeste noted her physical illness before the first day and explained that another participant informed her of a similar apprehension. It is significant to note that even participants with skills and prerequisite education in excess of the entry prerequisites for the program harboured feelings of anxiety about "fitting in" as in, for example, Lucy's case.

As a result of their recollections of feelings of apprehension, participants unanimously agreed that the upgrading or first semester was a necessary transition back to formal education as a preparation for the college-level courses. Removal of the upgrading would reinforce their feelings of anticipation and anxiety.

All participants agreed that to modify the upgrading to be more rigorous with increased difficulty would not be advantageous since they needed to gain confidence to be successful. Shor and Freire (1987) support participants' views with their own work. They feel that to create early success for learners builds their confidence. A safe, supportive environment gives participants the opportunity to gain a comfort level and derive from this environment what they need to render them free to learn (Brookfield, 1987). Even (1988) and Evans (1989) refer to participants' need to overcome barriers and to integrate into the learning environment. The upgrading portion allowed them to have this introduction to the learning world. Quigley (1993) supports the view that learning must meet the needs learners have at the time when they approach the learning. Watt and Boss (1987) identify that there are many factors involved when adult learners return to learning and whether they persist or not has as much to do with their perceptions of how the educational programming satisfies these needs as their scholastic ability. Garrison (1985) supports that there are numerous connections between personal and academic needs which affect how adult learners fare in educational programming. Given the participants' comments and the theoretical support for providing a transitional phase-in for adults returning to learning, including the upgrading semester seems to be an acceptable course of action.

On the other hand, although participants referred to upgrading as "low stress" or "fun" and reported that it provided them with confidence building activities, the fact remains that participants also note a stressful transition when beginning the college-level courses. Although there may be many explanations for more stressful experiences in later courses, such as the group dynamics at play in the group's experiences, the concern as to whether or not the upgrading did prepare learners for subsequent course work must be addressed. The program development that would be needed to increase the level of difficulty while maintaining the confidence-building nature of the experience would entail a balance between increasing the level content difficulty and the amount of content with employing delivery strategies to foster participants' confidence they can succeed in learning situations. Achieving this balance should be the focus of the introductory upgrading or skill development semester.

Recommendations.

i) To better prepare learners for college-level courses, course developers should identify core skill sets for group mastery. Course design should allow participants to delve more deeply into relevant areas of interest to them which would increase their reading skills, their research skills and knowledge base.

ii) Content experts who will instruct in the college-level courses should be tapped as a resource in program planning and development so that level of difficulty is scrutinized to achieve proposed outcomes needed to make the transition to college-level courses a less stressful one.

iii) Expert instructors from work sites would be invited to deliver content-based information sessions or guest lectures.

iv) Areas of course development in upgrading could be enhanced by holding "mini-labs" in work-site facilities.

v) A feedback evaluation loop should be set up so that graduates can provide evaluation feedback to program developers identifying which areas of the upgrading need to be better defined for future cohorts.

Course work as transition to work.

The participants mentioned the college-level courses in relation to the experiences they had on the job. Each noted numerous instances of how ecology, botany, soils, sampling, law, natural history or survival found application in the real world of work. Two issues develop as a result of analysis of the participants' testimonies.

First, many of the comments participants made were vague in that they referred to having used "botany" in "vegetative assessments" as Susan noted. There are a number of possible explanations for this. One explanation is that there may have been insufficient probes to elicit the depth of response needed for drawing meaningful answers to the questions concerning this theme. However, there were several questions asked to elicit these responses, and participants were generally not reticent in providing examples to demonstrate their points on most issues. Another possible explanation rests in the fact that participants had not had any opportunity to reflect on how their on-the-job experiences contributed to their learning experiences. If this is the case, then participants may have been recounting the ad hoc situations in which they found themselves on the job without any real idea of how the components of the work experiences were emphasizing the specific details of the programs. At one point Susan stated that the program "had not met her expectations" because she did not expect to be "running up a dyke." There is a sense from this participant that the experiences she had on the job did not reflect what she felt she had been trained to do. In fact she said she expected to do "lots of sampling." The fact that the participants did not know definitely what the practicums did, points to a lack of review of these practicums. Of course, there were numerous examples of participants referring to very specific incidents that did give them opportunities to test their sampling skills as when Nadine referred to using "Natural History" course at the "geology lab at [a local oilsands plant]." Nevertheless the sense of vagueness in the responses produced a feeling that there needed to be a greater connection between the academic and the job experiences. Gayle's reference to her "lack of experience" to act on the job reinforces this idea.

The second issue raised indirectly is related to the descriptions of the work placements participants provided. Although there were numerous experiences related to course materials, there are other on-the-job experiences which do not appear to be related to course descriptions provided by participants. For instance, Lucy referred to working with Kestrel boxes. Kestrels are falcons, and there is no mention or evidence of any course work which either directly or indirectly deals with any kind of zoology. She could use the "research skills" she had gained, but none of the participants related any information about birds in their discussions. Susan's perspective on "running up the dyke" provided another example of a work experience which did not seem to reinforce course offerings.

Sebranek et al. (1996) propose a tech-prep model which incorporates, at the outset of the program, a chart tying a specific academic skill to a specific application such as use of grammar skills in technical writing practised on the job site. The programming provides learners with a potential use of the skill within the big picture of the connection between the classroom and the work site and creates the opportunity to debrief on these connections throughout the development of the entire program.

Recommendations.

i) It would be advantageous to connect the workplace directly to the classroom by providing participants with a plan of how classroom skills will be used on the job.

ii) Work placements should have direct connection to the program goals.

iii) Providing participants with seminars or discussion sessions when they return to the classroom so they have the opportunity to reflect on their learning would encourage reflection and evaluation.

iv) Providing work placement instructional visitations so that instructors and on-the-job supervisors have the opportunity to consult would encourage relationships between classroom instructors and practicum supervisors

Team skills transferable to the work site.

Participants faithfully described, with examples, their applications of their concept of team participation to situations on the job and in the classroom. Easily recognizable is the way participants equated their concept of team participation with their ability to contribute meaningfully to their environment at the work site. Less evident is whether or not there is a clearly discernible connection between activities in the classroom portion of the program which encouraged development of the ability to apply these team skills as participants describe.

Although participants describe examples of how they engaged in group interactions in the classroom, and later, performed in group projects on the job, it is difficult to draw connections between the classroom situations and the work sites. It may be that these individuals would have reacted similarly in job situations without the classroom experiences they shared. It is, however, also possible that group encounters in the classroom gave participants the definition by which to evaluate how they interacted on the job site.

Bonner (1959) alludes to the complex, interwoven relationships that evolve from group interactions. The group and the individual exist symbiotically and because human beings are essentially social creatures, the group dynamics evolve naturally because human beings readily and instinctively share learning. Given that this is true, and it certainly may not be so, perhaps the fabric of interactions in the classroom created an evolving common view of the concept of team membership. Certainly the similarity in phraseology between Celeste's and Gayle's definitions of team players as both leaders and followers suggests that both participants discussed the concept somewhere, perhaps in the program. If the premise that such a discussion occurred is accepted, it might be suggested that the individuals involved unconsciously developed, as Bonner (1959) suggests, a group definition. Nadine suggested that the workplace was a new environment and the relationships there were different, but it is likely that the concepts developed by group interaction during classroom instruction affected how the participants reacted in these new environments.

There seems to be evidence, however weak, to suggest that some interaction led to the participants' perceptions about the concept of the team. There is insufficient evidence from participants' revelations to draw irrefutable conclusions that any factor or group of factors in the program developed better team skills among participants. There is, however, enough evidence to suggest that the connection between group dynamic and the development of transferable team skills be explored.

Recommendations.

i) Formal group sessions to debrief groups after work site practicums should be set up to allow groups to explore and discuss their understanding of group interaction and team participation to allow reflection to occur.

ii) Feedback from supervisors of on-the-job training should be given to instructors and program co-ordinators to include as part of participants' assigned grades so that employers can provide meaningful feedback to participants in their team co-operation and team participation skills.

iii) The program curriculum should introduce, if this is not already in place, a theoretical model of team participation and allow participants to self-evaluate against this theoretical model to provide a more concrete vehicle to complete the formal evaluation of team skill development.

Administrative Issues

From the comments which participants made it is apparent that the decisions made by administrators in setting up the program had an effect on the participant's views about the program. It is also apparent from a number of comments that the choice of instructors and the assignment of instructional workload had a great effect on the nature of the participant's responses to the program experience. Choice of instructor is an administrative decision. Dirkx et al (1993) points out that the components of program design, which include choice of instructors, target audience, scheduling and design, are unique for vocational programs and need attention to detail. It is true of any educational program that such choices either enhance or detract from its structure. There are many issues with which administrators or program developers grapple, and sometimes it is not possible to make the optimum choice; consequently, administrators make the best choice among available options. It is, however, necessary to attend to detail in order to ensure smooth program functioning. It appears from participants' comments that certain instructors had inadequate "preparation time," assignments not in their area of expertise and extra duties that are not really part of the primary function of an instructor. That the participants saw this as unacceptable in terms of not getting their money's worth or "being ripped off" is probably not surprising.

Scheduling of classes, field trips, work placements and courses form another set of administrative responsibilities. According to participants there were issues related to these as well. Whatever the reasons, participants noted that they felt "second rate" because their classes were not given a top priority in the college's scheduling initiative. Several participants noted that at least one field trip was not "organized" and interfered with studying.

Organization of class time and study time should not conflict if learners are to feel safe and supported in their environment where the learner is respected (Knowles, 1975). That start dates for courses were uncertain, as participants report, is unnecessarily stressful for learners and does not allow for adequate preparation for instructors. It is interesting that two areas of participant complaint interact to point out an administrative flaw. Participants note that one instructor was not from the area and, therefore, was not familiar with curriculum or the industry in the area. It is odd, to say the least, that this person was given the task of finding work placements under time constraints. This situation points to a flaw in the administrative design of the program.

All in all, to ensure that participants' needs are met, several recommendations are suggested.

Recommendations.

i) There should be a co-ordinator in place for this program.

ii) The work placement function should be left with placement or co-op personnel who can co-ordinate these activities within the institutional plan for student placement.

iii) Instructors should be hired at least three months in advance so that they are able to have adequate preparation time.

iv) Instructors who have industry training should be given preference in hiring practices.

v) Schedules should be in place and provided to participants when they register.

vi) Instructors should be given help in selecting resources in consultation with industry experts.

vii) Equipment for labs and field trips should be arranged for and booked in advance by a program co-ordinator in consultation with the instructors.

Instructional Influence

Many theorists in the adult education field have explored the relationship between adult students and facilitators or instructors. Wlodkowski (1985) makes this statement:

> An instructor of adults is quite unlike a teacher of children or adolescents. This person is an adult among adults. The customary advantages of age, experience and size cannot be counted on for extra leverage or added influence as they might be for an elementary school teacher. Many adults will have had experiences that far surpass the background of their particular instructor. As a group they have out-travelled, out-parented, out-worked and out-lived any of us as an individual instructor. Collectively, they've had more lovers, changed more jobs, survived more accidents, moved more households, faced more debts, achieved more successes, and overcome more failures. It is highly unlikely that we can simply impress them with our title, whether it be trainer or professor. (p. 18)

Knowles (1975) suggests that the relationship between instructor, or more appropriately facilitator, and participants in adult education environments, is one in which the facilitator becomes one resource within the learning venue who can act as a guide to help participants initiate learning and utilize other resources.

The role of the instructor who is an employment specialist has been explored. Cervero (1988) questions the value of traditional facilitation of adult education programming where successful work place outcomes require that participants must demonstrate skill and expertise mastery in a specific job situation. Dirkx et al (1993) asserts that experts are the best facilitators of content programs described as vocational programs emphasizing specific work-related skill sets. Darkenwald and Merriam (1982) suggests that the growing need for professional work-related expertise in training programs renders vocational adult education practise as a primarily expert-based delivery system.

Nevertheless, emerging from adult education practise is a list of characteristics of adult learners who are unique in their learning needs (Knowles, 1975, 1984; Brookfield, 1984, 1987; Knox ,1977; Kidd, 1973; Houle, 1961; Cross, 1981; Even, 1988, Evans, 1989). Respecting these learning needs is one responsibility of the adult educator professional who, as facilitator, views the adult education participant or learner as a peer within the context of the adult education venue (Wlodkowski, 1985). The need to balance the needs of adults with the objectives of the training program is a major task of any adult educator, but this balance is especially crucial in a skills oriented program.

The participants were opinionated about the role instructors played in their learning experience. Participants noted consistently that instructors who were instructing in the program designed to prepare learners for work experiences centered in the Boreal Forest biome were lacking in any tacit knowledge of the environmental system and clearly not job experts in any industry in that area. Participants cited significant issues arising out of this problem, from "inaccurate" data to an instructor's inability to organize work placements and a field trip or to choose appropriate resources. A second instructor, who offered a course in a compressed format, was also from outside the area. Participants did not question this instructor's expert status given his professional qualifications, but they did question his treatment of them as learners. Knowles (1984) suggests that adult learners respond to drawing from their experiences and framing their learning around their own situations. This instructor, perhaps because of his commitment to addressing the relevant material within the time lines of the compressed course schedule, did not, from participants' recollections, give them the opportunity to reflect, question or generalize. Participants' descriptions provided a picture of activities in this class which are reminiscent of "banking method" education in which an expert instructor provides to learners the information to be learned and reproduced in other contexts (Freire, 1968). Participants described situations where they did not have the opportunity to speak. Susan described participants', including her own, embarrassment when they asked questions of this instructor and were told that questions were not welcomed.

In contrast are participants' descriptions of many work place experts who guided their learning during the work place practicums. Lucy, Susan and Gayle gave specific examples of experts from various work place areas, both company employees and volunteers, who took the time to demonstrate and supervise participants' activities and to provide corrective and constructive feedback. Again, with reference to Dirkx (1993), the classroom expert was not informing the learning situation as well as the vocational expert in the field. Kidd (1980) supports this concept in his assertion that work site interchanges with experts are so valuable that the means of putting participants into contact with notable experts working in the industrial setting should be developed and implemented. Given the needs of participants as adult learners and given the logic of having occupational or vocation programming delivered by content, setting-specific industrial experts the following recommendations are suggested to aid this program's evolution.

Recommendations.

i) Expert instructors employed in the program should be well versed in the knowledge of the Boreal Forest Biome and have had practical industry training.

ii) Instructor-in-industry programming, in existence in Fort McMurray, in partnership arrangements between the college and the work sites should be utilized to provide instructors with value on the job training.

iii) An Advisory Committee of work-related experts should inform curriculum issues and give program instructors valuable work place contacts for skill set evaluation.

iv) Expert trainers should be provided with theoretical principles of adult education through certificate programming, available through distance delivery, utilizing video conferencing, internet courses or through traditional classroom projects.

Program Expansion

Participants were unified in their assertions that a second year is necessary to meet their needs for both educational fulfilment and work place competence. Employers' assertions that there would be limited opportunities for participants upon program completion with the one-year certificate as their credential formed the basis for participants' concerns. To introduce adults into the work force as low level employees with a minimum credential, even if they do get entry-level jobs, seems to be creating an inequity. If they are hired, it is unlikely that they would qualify for promotion or advancement of any kind. This seems to be, in effect, creating a lower stratum of the work force who will be soon surpassed by younger people or peers hired at the same time, but who have greater levels of job preparation. Creating such an under class of employees, whose morale will undoubtedly suffer, does not seem to be in anyone's best interest. From participants' statements on this topic one can deduce an underlying sentiment that they were not entirely comfortable with their position as lower level new hires.

Parnell (1993) in applying the tech prep concept to adolescent education, suggests that marrying the concepts of academic development with occupational skill mastery, presupposes that the adolescent will enter the work place as a new hire and work through stages of education, apprenticeship and on-going training to eventually assume greater levels of responsibility over time. Adults entering the work force with the school-to-work one year certificate do not have the time to invest in the developmental education process to become more certified over time. They are competing with other more qualified adult graduates from colleges and universities who have greater levels of education. Added to this, the adults graduating from this school-to-work program have expressed feelings of pessimism at their job prospects since they acknowledge that their certificate, although worth a great deal to them, "even if it means nothing to others." as Celeste expressed it, is not as respected among employers as diplomas, associate degrees, or baccalaureate degrees.

In summary, participants discussed employers' viewpoints that their qualifications are inadequate for securing entry-level positions. Participants noticed that others in the field have significantly higher levels of educational ability. Participants expressed, for the most part, reluctance to relocate to continue educational studies, although they appreciate the need to do so in order to secure satisfying careers or positions of employment.

Recommendations.

Developing and implementing a second year would allow participants to earn a diploma and the title of technician which would provide participants the opportunity to compete for meaningful employment and to progress to positions of greater responsibility. The following are suggestions for accomplishing this goal.

i) Creating a second year of academic study supplemented by a paid co-op work term for single parents needing to earn while supporting their families might be an acceptable way to accomplish gaining academic credentials and occupational skills.

ii) Academic courses could be offered through use of distance technology from another area institute so that courses are relevant to Northeastern Alberta.

The Significance of Experiential Learning

It is not surprising that participants cited practicums, hands-on experience, the value of application and reinforcement of material as important considerations in the review of their learning experiences. This school-to-work program was designed to highlight practical, hands-on application as the most effective reinforcement of learning. The participants were aware of this component of the program and, indeed, selected this learning experience based on a fit between their learning views and the published methodologies embraced by the program. There is considerable support throughout the literature to suggest that adult learners, in general, value learning that is experiential in nature. Knowles (1973) (1975) (1984) identifies that adults often choose learning experiences which have immediate application and meaningful relevance over others which do not. Brookfield (1984) (1987) characterizes the adult learner as activity-focussed and receptive to opportunities that provide them with the possibility of taking on responsibility for learning. Kolb (1984) created his learning cycle based on active experiences followed by reflection, generalization and application, concepts identified by this study's participants. Cross (1981), Kidd (1973) and Knox (1977) add their respective voices in support of the case for presenting adults with experiences based in practice. Freire (1968) suggests an action-orientated approach leading to praxis in overcoming barriers.

Participants raised several points which are noteworthy and emphasize the essence of their points of view on this particular area.of evaluation. First, the participants found the expert instructors who were working on the job to be, in general, those who had the most relevant information to share. Clearly the participants were wholly positive in their evaluation of and responses to their experiences with on-the-job work placement supervisors. Participants' reactions to the structure of the on-the-job training experiences were reported with energy and enthusiasm. The comments supported the view that the meaningful and relevant application of skill sets in the real world is a powerful learning tool. Kolb (1976), in the experiential learning model he suggests, incorporates application of skills into the learning cycle he proposes. After an experience followed by reflection and generalization to a principle, the learner applies the learning to reinforce the gaining of knowledge in order to make the gained knowledge meaningful. In experiential learning, the experience comes first followed by reflection leading to theory. As a method of learning that is favoured in industrial settings, experiential learning rests on the imparting of knowledge by those who are working with that knowledge on a day-to-day basis, and may explain clearly the application of particular skills in the context of routine, daily activity. Kidd (1980) points out that the positive impact that experts in a specific industrial or practitioner setting can have on the learner is so great that it is worth investing in relatively expensive technologies such as distance learning to be able to put learners in touch with experts or professionals utilizing skills in appropriate settings which learners can emulate. It was also obvious from participants' comments on the instructor from out of the area that this person's main lack was not in theory or knowledge but in the lack of relevant applied knowledge to the area and industrial sites in which the participants would be employed. In fact the likelihood of any material, resource or instructor meeting with favour derived, for the participants, from how these elements of the program provided them with knowledge of the job site.

To overstate the significance of the participants' positive reactions to hands-on experiences would be easy to do given that the nature of this program focuses strongly on the connection between classroom experience and on-the-job training. In reading the material, however, it is difficult not to get a sense that the actual "doing" opportunities gave meaning to learners' participation in the program. Nadine clearly raised this issue when she described bringing the learning attitude of the student to the lab site while Celeste was equally enthusiastic about bringing the results of her activity-based exploration back to the classroom setting. Participants expressed appreciation for the expanding of their experiential base.

It is important to note that participants did not make strong connections between classroom activities and actual workplace setting, and that there appears to be a weakness in providing the proper transition between classroom activities and work place applications. This is not to imply that there is any reservation on the part of the participants that experiential learning is superior or that tactile experiences can stand on their own without the academic classroom component. The conclusion which can be supported is that participants appreciated experiential learning; however, as examined earlier greater connectivity between the classroom and the job site would, undoubtedly enhance program design.

Recommendations.

i) Building on participants' enthusiasm for hands-on experiential events and relevance to the Boreal Forest, the program could easily incorporate an exploration of environmental issues or impacts caused by industrial development in northeastern Alberta other than those related to heavy oil mining. The logging industry is one example of an industry increasing its activity in the northeastern area.

ii) Participants should be active in community environmental group conducting studies on either potential impacts of new industries or economic growth or assessing damage from past or on-going activities. Numerous studies on the Athabasca forest, conducted by the University of Alberta, activity recruit students during their data collection phases. Contacts with researchers may result in active participation work experiences for program learners.

iii) Participants should be encouraged to undertake independent study on relevant topics as an option to certain exams or structured assignments. It is possible that certain learners may be able to perceive what Nadine referred to as "the big picture" of environmental change.

The Need for Support Skills

Participants noted the need for skills peripheral to main occupational skills. Broad-based liberal education practice provides a range of skills that addresses learning needs consistent with the Conference Board of Canada's (1996) employability profile. Notable among these skills which are organized as academic skills, personal management skills and team work skills are listed critiquing and interpretation skills, writing skills, adapting to change and understanding a diversity of perspectives. Participants detailed needs for supporting skills not directly related to the occupational skills of sampling, reading calibrated machinery and testing.

The Shared Vision Task Force (1989) captured a view shared by a number of practitioners who argue strongly that skills and attitudes learned in the study of the humanities should inform occupational or skills-based educational programming designed for work place training. The support skills, they argue, which derive from studying the humanities, are the very skills which help the participants in such programs to develop self-initiation, self-directive and self-reliant behaviours. In their opinion study in sociology, psychology and languages as well as in other human study discipline areas can lead to the development of a better prepared occupational practitioner.

Another area participants identified as an area of need was related indirectly. Participants noted cultural tensions. The need for perspective development would be greatly enhanced if historical perspectives could be considered in light of environmental concerns. The "Native/White Issues" may have occurred because, as the group interactions progressed, the lack of understanding of divergent cultural perspectives emerged. Sociological explorations, as well as historical discussions, could provide an academic exploration of how different perspectives and value systems often clash providing participants with an objective treatment of what can be subjectively emotional issues.

Given that participants note the need to develop themes relevant to the Boreal Forest biome and given that this program is a school-to-work environmental program, perhaps a more consistent way to allow participants to view one another's varying viewpoints would be to create a course focussing on environmental issues incorporating an exploration of cultural diversity.

Recommendations.

i) Communication and writing skills developed in the upgrading semester should be reinforced in subsequent semesters emphasizing technical writing and research methods.

ii) Participants should keep a journal of their experiences upon which to reflect throughout the program. This would serve two purposes.

Firstly, participants would develop writing skills and secondly, participants would have the opportunity to express, in writing, ideas which create issues for them, allowing them to explore their perspectives.

iii) Computer skill reinforcements should be offered throughout the program providing learners with the opportunity to practice their acquired skills in the context of using the technology to master other content-related skills.

iv) One possible way to introduce Alberta Native perspectives on environmental approaches would be to introduce a course on Ethnobiology informed by horticulture and silviculture from traditional perspectives applied to the northern tundra or taiga biomes.

Relevance to Northeastern Alberta

For all participants the concept of educational programming relevant to the environment of northeastern Alberta and applicable to job site concerns emerged as a significant focus of expressed viewpoints. Participants noted instructional deficiencies resulting from certain instructors' lack of familiarity with the region, both in terms of its biotic structure and its geographical position. Further, participants expressed a loss of confidence in instructors who were inaccurate in representing the idiosyncrasies of the area, both in structural terms and in recommended instructional resources. All five participants expressed their displeasure with an American instructor who, while not lacking in instructional personality and content expertise, had difficulties because of a lack of tacit and acquired knowledge of the flora and fauna of the area.

Given that tech-prep courses should provide a school environment that involves work place preparation (Parnell, 1993), and that this program seeks to provide similar experiences for adults as those provided to adolescents in tech-prep programs, the fact that so many of their work place situations involved the need for water chemistry which was not available during school preparation, is a concern. It is the view of the participants that there was an expectation on the part of employers (i.e. Susan's comment that the supervisor seemed surprised that she was not familiar with the properties of water and its attendant flora and fauna), that participants would be conversant with this knowledge. According to Smith (1996) the taiga region of Northeastern Alberta is composed of " for the most part, glaciated land…cold lakes, bogs, rivers and alder thickets."(p 265). Among the participants' practicum supervisors four made reference, according to participants, that they expected participants to have this knowledge of water's properties and apply it to the work situation. Participants having knowledge of these concepts would seem a reasonable expectation on the part of prospective employers. If as Parnell (1993) suggests, such integration of classroom theory and practice is a clear expectation of such programming, the participants' comments are appropriate.

In summary, participants' comments reflect that they valued learning that was meaningfully relevant to work placements and expressed concern about situations and factors that were not applicable to their learning need to engage in experiences relevant to their geographical area.

Recommendations.

i) Experts chosen to instruct classroom components should be familiar with the Boreal Forest biome.

ii) Instructors not actually working in the field should be seconded to industry for a finite term to ensure their understanding of relevant procedures / practises.

iii) Instructional resources should be reflective of and instructive of biotic / abiotic interactions common to the Boreal Forest.

iv) An exploration of environmental studies conducted in the Boreal Forest should be added to curriculum or reading list.

v) Classroom instructors should actively liaize with field instructors to streamline classroom presentation to reflect actual Boreal Forest practices.

vi) A limnology or hydrology course should be added to the college-level programming.

vii) An upgrading course on preliminary concepts in the chemistry and the physics of matter should be added to the upgrading section to provide preparation for the concepts involved in limnology or hydrology.

viii) Since there are numerous industries which operate in the Boreal Forest and have environmental impacts on the environment, including a course on other industries such as forest management or logging might provide a more comprehensive set of skills for program graduates.

Group Interactions

Participants, particularly Gayle and Lucy, clearly expressed the group dynamic interactions they perceived as the course participants evolved through a full year of close association and working relationships. What is truly exceptional about Lucy and Gayle's descriptions is how each, in different words, clarified and supported the interpretation of the other. Each saw a demonstrable evolution through stages with rich descriptions of each stage and examples. Lucy's characterization of the initial stage as "quiet friendship grew" is almost poetic. Gayle's supporting points create a picture of the initial forming stage.

The conflicts which later emerged as the participants compared their individual expectations, perceptions and needs stand in counterpoint to the initial exploratory stage. Lacourciere (1980) contends that this stage is necessary for the development of the group and, indeed, predictable as individual power struggles emerge. The conflict which arose in "the Native / White issue" is an example of the types of power interchanges which participants recalled. No doubt many factors contributed to this clash of cultures over practicum placements. It is, however, one source of conflict among the participants. The fact is that once the participants became more familiar with one another and more aware of differences, the concept of team work which Nadine and Celeste talked about as the predominant characteristic of the group in the early stages of development, is replaced by interactions more aptly described as conflict and tension-ridden. Instead of being a case where, as Nadine described, "everyone worked together", the participants found greater divisiveness as they found themselves competing for job placements.

The participants thoroughly described their changing reactions and feelings toward one another as time progressed and their relationships solidified, but it is uncertain from their perspectives whether or not the group interactions had any long term effect on their abilities to better cope with the demands and rigours of the on-the-job environment. Clearly, the Conference Board of Canada (1996), in detailing its employability skills profile highlights effective group participation skills as a desirable outcome of educational programming designed to take the participants from their beginnings, through the classroom to the work place. The question of how to create group dynamic models which produce the desired results is a difficult one to answer.

This program employed a personal development course referred to by participants as Rose's course in the first or upgrading semester. They all agreed that it gave them opportunities to form relationships and to explore these relationships in ways most found different from how they had previously viewed relationships. Celeste talked of "silliness" and doing unusually odd things or different activities throughout the program. The closeness developed during this time might be considered by some to be artificially contrived, but it did allow participants to get to know one another well. Given what the participants reported, they developed a sense of trust which may have set the stage for the airing of conflicts in ways which led to resolution. Participants did report that the conflicts gave way to a sense of peace and co-operation in the latter part of the program.

Whether this interaction made participants better members of the workforce because they had this intensive group interaction is difficult to judge. In viewing group interactions, it would seem unlikely that any group member would learn anything from others if no one challenged another's opinion. It seems advantageous to encourage expression of differing viewpoints so that the phenomenological value constructs that contribute to the issues would surface, increasing interaction levels and, thus, learning.

Lewin (1951) in his discussion of the growth of the individual as a result of participating in group dynamics suggests that there is a freeing of the individual's ability to communicate after being part of a group. Gaining validation from a group's positive response makes the individual more likely to invest himself or herself in taking the risk of further group involvement. In fact, Lewin (1951) and Hampden-Turner (1981) concur that one positive outcome of group participation is the unlocking of the individual's self-reflection and self-critical tendencies, a position supported by and further explored by Hart (1990) whose discussion of group synergy and development derives, in part, from Mezoriw's (1985, 1990) theory of transformative learning. From a humanistic perspective Rogers (1969) certainly embraces the concept of group exploration as beneficial to the individual.

The participants in this program reported, from all five testimonies, a freeing of speaking ability and a greater acknowledgement of their abilities. They expressed a sense of growth and awareness. Since participation in the program was one significant factor which all shared during this time, it cannot be omitted as, at least, a catalyst or a contributor to this perceived personal development. The program and its conceptual group structure must be considered at least as a contributing factor in the participants' perceived formative development.

Recommendations.

i) The personal development course should be maintained in the formative or early stages of the program.

ii) Given the potential for conflict and tension to develop as the participants become better aware of their differences and perspective issues, the personal development course could be reintroduced in later semesters as a conflict resolution forum.

iii) Instructors should be given training to identify potential conflict situations in order to refer these issues to the personal development seminars.

The Move Towards Independence

Participants commented on their improved self concept after being a part of this program during the course of the full year spent completing both in-class work and work practicum placements. Their descriptions of their experiences, rich with details of specific examples of their emotional status before, during and after the program and the specific incidents depicting how their emerging perspective development impacted their lives, are poignant and revealing. The explanation for the transformation may be rooted in a number of factors, the exploration of which presents an intriguing and informative study.

The humanistic school of adult education has, to a great extent, adopted the philosophies of Rogers (1969, 1970) and Maslow (1970), seeing learning as a means adults can use to become part of the world in an interactive way. Education that focuses on development of the individual must take into consideration the way in which the individual is influenced by being in the world. From this essentially learner-centred philosophy, adult education practitioners gain an understanding of the needs of the individual as a learner.

A growing trend in adult education is to view practice in terms of an emancipatory theory. Theorists and practitioners stress interaction with others and observations of others in a social context with the ultimate goal of arriving at new modes of behaviour or guidelines for assuming new roles (Hart, 1990; Mezirow, 1985, 1990; Cranston, 1994). Mezirow (1990) proposes a theory of perspective transformation through such social interactions. Confronting new situations causes individuals to evaluate meaning perspectives and schema leading to a formulation of new views. Mezirow refers to the work of critical social scientists such as Habermas (1970) of the Frankfurt School, as the inspiration of the view that when the individual engages in critical reflection, internal changes in the individual inspire change in outward behaviour. In essence, the changes which occur in the mind of an individual affect how that individual reacts to and alters his or her environment in terms of relationships, community structure or work. Although perspectives are constructs dependent on experience and exploration, Mezirow suggests that experiences can be moulded in learning venues in such a way that individuals are left with a raised awareness of themselves and their places in their environments. By providing situations for observation or discussion that encourage individuals to raise issues and suggest approaches to understanding new concepts or solving problems, educational programming can encourage individuals to explore new responses to situations.

Exploring both humanist theory and emancipatory process in light of the experience of this school-to-work group provides several interesting concrete examples of how theory can be applied to practice. Celeste talked about gaining a greater sense of self worth, "first from the marks" and later because being able to help others gave her a greater sense of validation. Celeste was amazed that she was able to help in a computer lab and was able to take action that helped her to redefine her self-concept from "pretty much worthless" to someone who could "ace" courses.

Gayle's revelations provide, in this study, the most startling representation of change in the individual leading to mobilization to take risks, to try new activities and to revise self-perception. Rogers (1983) asserts that when individuals engage in group discussions, they engage in explorations that lead to self-directedness. The humanistic model of adult education provides one theoretical framework for Gayle's reported individual growth. Rogers suggests that when the individual is able to explore the feelings he or she has, a type of learning called "whole-person learning" (p. 20) occurs. This learning is more than an activity; it is a philosophy which combines intellectual functioning with feelings, ideas and experience. This convergence leads to an understanding of meaning associated with concepts. Gayle expressed several times that she became a "completely different person" as a result of her participation in the program.

She clearly saw herself as less chained to her old occupations like "keeping the home tidy" and her family supplied with baked goods. She found new interests and derived new meaning from old relationships. She engaged in learning that gave her the opportunity to make new friends, foster a new understanding of her ability and reinvent her value system. Roger's (1983) view is that learning activities, like the personal development class, coupled with occupational skills and work placements which incorporate the whole being, lead to more personal growth for the learner. Concurrent development of both feelings and intellect is at the core of Roger's philosophical view of learning's purpose. Knox (1977) states that for women "successful and compatible performance in work and family roles can contribute to a strong and growing sense of self" (p. 472), and Gayle certainly described this growth of self.

Gayle's case can be interpreted from the theoretical framework of Mezirow's (1985, 1990) perspective transformation. Gayle experienced a change in her appreciation of the components of her life. Mezirow points to an altering in how the individual regards relationships, community structures and work. It might be appropriate to conclude that these meaning perspectives changed because the individual's idea of the self had changed. After the program Gayle saw her as a communicator in her relationships with her husband and family. Clearly participating in the program had an effect on how Gayle, in the sense which Mezirow's postulates, saw a new meaning perspective in her evaluation of herself.

Undoubtedly the participants' experiences in the program were affected by the group synergy. The group and the individual exist symbiotically. The individual is the essence of the group; the collectivism of the group reflects the individual. Hampden-Turner (1973) suggests a model to interpret how work in groups unlocks the learning potential of the group's members. Hampden-Turner contends the interdependence between group and individual means that a group member's individual growth may result from finding a personal place within a successful group which has the ability to achieve its goals or solve its problems in an atmosphere conducive to negotiation and synergy. The participants reported an appreciation for belonging. Gayle reported that they learned that they were all "similar" with "kids and bills." Celeste noted that when she related that she had "thrown up" before attending the first day of class, another participant reported the same reaction. Throughout their testimonies, participants expressed their opinions about forming relationships and finding their place in the group.

The theoretical explorations presented provide a frame for exploring the findings of this study. Whatever the reason, all five participants reported personal growth. The Conference Board of Canada (1993) expresses the view that individuals must be decision-making, initiative taking, self-motivated, self-directed employees. Perhaps creating synergistic relationships such as those described by learners and providing the forum for freeing communication are ways to accomplish this aim.

Recommendations.

i) Participants entering the program as non-traditional learners should be provided with opportunities to actively engage in group activities led by facilitators experienced in conflict management which allow them to communicate verbally. Such opportunities might include introducing seminars in which learners present ideas or opinions from reading.

ii) Debriefing activities should be scheduled after work experience so learners have the opportunity to share with other group participants. Such activities are safe in that they are not likely controversial and in that the learner has control of and understanding of content relevant to his or her learning.

iii) Participants should make journal entries on any group sharing activity in order to expedite critical reflection.

iv) Participants should be encouraged to develop a task-sharing structure with specific group tasks assigned to each member to create for each the positive experience of having responsibility for one necessary element of the group's activity.

v) Participants and instructors should meet in focus groups regularly to discuss issues or concerns or areas of interest to the group.

vi) Participants should be encouraged to meet to verbally report on progress on their individual tasks and assignments.

Research Conclusions

This study reviewed the school-to-work program, Environmental Worker Certificate Program at Keyano College in Fort McMurray. It is apparent from the themes that there are several interesting outcomes of this study. The primary research question asked whether participants viewed this program as a successful employment preparation tool. The answer to this question must address the secondary questions which asked if learners perceive changes in their abilities to be self-directed, are better skilled in occupational competencies, are better team members, and have an improved self-concept.

The answers to the questions posed can be found from analysis of the nine themes. It seems that from the participants' perspectives developing personal skills allowed them to become more self-directed. Susan reported more willingness to speak out while Gayle took control of her children's school parent advisory committee. Nadine talked at length about taking control of environmental issues by being proactive. For Celeste came the understanding of her control over her educational choices while Lucy learned that skills she had acquired gave her the ability to do research. Participants reported changes in perspectives leading to greater mobilization and greater ability to act independently in a variety of situations, both work-related and personal. Other factors may have contributed to participants' reported growth in personal confidence. It is, however, the participants' belief that aspects of the program influenced this growth.

There are several issues related to the question of whether the program as a learning experience prepared learners with skill sets needed on the work site. While participants reported that many skills were transferable from the classroom to the work site, there were a number of incongruencies between the program's expressed outcomes and work experience situations. Participants were concerned that their education was not recognized at the work site, and hiring preferences were for those with greater levels of education or a more substantial credential. As a pilot, the certificate served the purpose of surfacing the difficulties inherent in this area of program design. Participants strongly endorsed the inclusion of experiential learning, which they support as significant to their learning. Participants praised on-the-job instructors and trainers as significant contributors to their learning, but evidence suggests that there needs to be a more closely defined relationship between classroom activities and work place experiences. The participants described, in several ways, the need to develop relevant and meaningful learning experiences steeped in information about the area in which they would be working, the Boreal Forest. Criticisms of the program centered around instructors who were not knowledgeable about the area and who used texts and other instructional resources which held no concrete information related to environmental and industrial concerns of the region.

There is little evidence to support that program design fostered any change in participants to be better team players. Evidence of group development and the possible development of individual initiative as a result of this type of interaction exists from participants' testimonies and is supported by the literature. Direct evidence is, however, insubstantial and certainly does not support drawing this conclusion. There is enough evidence to suggest that this theme might be studied more closely with future cohorts in longer programs to obtain longitudinal data for long term comparison.

Finally, participants related numerous examples of a change in perspective due to participation in the program. Lucy recognized herself as mature. Celeste found the courage to question rejection. Gayle re-defined her priorities. Nadine re-thought her views on the power of the individual. Susan found the impetus to speak. Each of the participants described a positive shift in self-concept. Each expressed that some of this growth resulted from participation in the program.

Given that participants derived reported academic and personal gains, the program did provide them with employment preparation to a certain degree. The participants believe that the potential to improve the program for future cohorts exists.

Implications of this Study

In light of recent interest in employability programming for adult learners, this study is of interest. In as much as it provides an example of how occupational programming might integrate classroom formats with occupational skill acquisition, this program is not unique. What is unusual is that it introduces only very specific academic skills tailored to the specific and targeted occupational operation. Participants expressed appreciation for experiential learning while citing a need for support skills. Because learners do not achieve a credential above the certificate level, they felt unable to compete with more highly qualified learners. Participants recognized that the jobs they were training to assume were in the local area and expressed their displeasure with curricula and instructors not conversant with that area. There are, however. interesting group synergies which developed between and among learners which resulted in participants' perceptions of individual growth. Programs of this nature should be constructed to take advantage of the possibilities of group interactions. Such initiatives should ensure that programming meets both industries' need for work force development and learners' needs for the possibility for career advancement and re-training.

Recommendations for Further Study

The program in this study formed a pilot study to serve as a format for adult-targeted school-to-work programming. The participants whose experiences formed the basis for this study were members of the first cohort. A subsequent cohort experienced the same format and the same curriculum. Repeating this study with members of this group might provide some substantiation for the views of this study's participants, but it not likely that this information would differ to any great extent.

More significant would be the views of industrial experts and workplace supervisors who, from their vantage point of on-the-job supervision, would be able to assess the capabilities of program graduates as contributing members of the workforce. Even more reasonable would be to modify the existing program with recommendations from this study in order to contact, in the future, graduates from both the Certificate and Diploma to see if there are substantial differences in the capabilities of members of the respective programming options. Hopefully this information would better inform those involved in decision-making processes using the Adult Skills Alberta guideline which seeks to see career and technology studies added to adult education programming (Adult Skills Alberta, 1998).

References

Adult Development Reform Project Advisory Committee (1996). Adult Development Reform Initiative. Edmonton : Alberta Department of Advanced Education and Career Development.

Alberta Department of Advanced Education and Career Development.(1998). Adult Skills Alberta. Edmonton: Government of Alberta

Alberta Department of Advanced Education and Career Development (1994). A Vision for Adult Education in Alberta. Edmonton: Government of Alberta.

Alberta Department of Advanced Education and Career Development (1994). New Directions for Adult Literacy in Alberta. Edmonton.

Beder, H. and Valentine, T. (1990). Motivational Profiles of Adult Basic Education Students. Adult Education Quarterly, 40(2), 78-94.

Belenky et al. (1986).Women's Ways of Knowing . New York: Basic Books

Bion, W.R. (1961). Experiences in Groups. New York : Basic Books

Bogdan, R.C. and Biklen, S.K. (1992). Qualitative Research for Education 2nd Edition. Boston: Allyn and Bacon.

Bonner, H. (1959). Group Dynamics New York: The Ronald Press Company

Boshier, R. (1976). A Critical Review of Motivational Literature. Adult Education. 27, 24-47.

Boshier, R. and Collins, J.B. (1985). The Houle Typology after Twenty-Two Years: A Large Scale Empirical Test. Adult Education Quarterly, 35, 113-130.

Bradley, G. (1995). What the Real World Needs in Reading,Writing, Speaking, and Listening : Occupation Application of Tasks and Skills in Reading, Writing, Speaking, and Listening. Fond du Lac, WI,: Moraine Park Technical College.

Bragg, Diane (1995a). Tech Prep Implementation in the United States: The Once and Future Role of Community Colleges. Community College Review, 22(4), 3-16.

Bragg, Diane (1995b). The Opportunities for "School-to-Work": A National Study of Work-Based Learning in U.S. Community Colleges. Community College Review, 65(7),39-44

Brookfield, S. (1984). Self-Directed Adult Learning : A Critical Paradigm. Adult Education Quarterly. 35 (2). 57-71.

Brookfield, S. (1986). Understanding and Facilitating Adult Learning. San Francisco: Jossey-Bass Publishers.

Brookfield, S. (1987). Developing Critical Thinkers : Challenging Adults to Explore Alternative Ways of Thinking and Acting. San Francisco: Jossey-Bass Publishers

Candy, P. (1985). The Ideology of Autonomous Learning, Proceedings of the Canadian Association for the Study of Adult Education Conference, 4, Montreal.

Cervero, R.M. (1988). Effective Continuing Education for Professionals. San Francisco: Jossey-Bass.

Clayton, D.E. and Smith, M.M. (1987). Motivational Typology of Reentry Women. Adult Education Quarterly, 37, 90-104.

Cohen, M. (1998). Post secondary education under welfare reform. Welfare Information Network. 2 (8).

Collins, M. (1988). Self-Directed Learning or an Emancipatory Practice of Adult Education: Rethinking the role of the Adult Educator. Proceedings of the 29th Annual Adult Education Research Conference. p. 61-66.

Conference Board of Canada (1993). Employability Skills. Ottawa, Canada : Ministry of Supply and Services Canada.

Conference Board of Canada (1996). Employability Skills Profile. Ottawa, Canada.

Cooper, P. (1995). The Tech Prep Handbook: Effective Tech Prep Policies and Practices. Lubbock: Texas Tech University College Education.

Cranston, Patricia. (1994). Understanding and Promoting Transformative Learning. San Francisco: Jossey-Bass.

Cross, K.P. (1981). Adults as Learners. Sn Francisco: Jossey-Bass.

Darkenwald, G.G., and Merriam, S.B. (1982). Adult Education : Foundations of Practice. New York: Harper and Rowe.

Darkenwald, G.G. and Valentine, T. (1985). Outcomes of Participation in Adult Basic Education. Lifelong Learning, 8(5), 17-31.

Dirkx, J.; Spurgin,M.; Lavin,R.; and Holder, B. (1993). Continuing Education as A Practical Problem. The Journal of Vocational and Technical Education. 9 (2) ,41-54.

Employment and Immigration Canada (1991). Planning Environment Assessment Document. Ottawa: Ministry of Supply and Services, Canada.

Evans, C. (1989). Breaking Through Barriers to Adult Learning. Equity and Excellence. 24(3), 28-29.

Even, M.J. (1988). Baggage Barriers. Lifelong Learning, 11(4), 29-30.

Freire, P. (1968). Pedagogy of the Oppressed. New York : Seabury Press

Galliano, G. and Gildea, K. (1982). Non-Traditional Students: New Faces and New Issues. Annual Meeting of the Southeastern Psychological Conference. Georgia.

Garrison, D.R. (1985). Predicting Dropout in Adult Basic Education Using Interaction Effects Among School and Nonschool Variables. Adult Education Quarterly, 36(1), 25-38.

Gardiner, Howard (1992). The Unschooled Mind: How Children Think and How Schools Should Teach. New York: Basic Books.

Glaser, R. and Strauss, R. (1967). The Discovery of Grounded Theory. Chicago: Aldine.

Grow, G.O. (1991). Teaching Learners to be Self-Directed. Adult Education Quarterly, 41(3), 125-149.

Guba, E. (1978). Towards a Methodology of Naturalistic Inquiry in Educational Evaluation. Los Angeles: University of California Press.

Guba, E. and Lincoln, Y. (1982). Epistemological and Methodological Basis of Naturalistic Inquiry. Educational Communication and Technological Journal. 30(14) 233 - 252.

Habermas, J. (1970). Toward a Rational Society. Translated by Jeremy Shapiro Boston : Beacon Press

Hampton-Turner, C. (1973). An Existential Learning theory and the Integration Of T-Group Research. Journal of Applied Behaviour Science 2(4), 367-386.

Hampden-Turner, C. (1981). Maps of he Mind. New York: Collier Books.
Hart, M. (1990). Liberation Through Consciousness Raising in Fostering Critical Reflection in Adulthood. Jack Mezirow and Associates. San Francisco: Jossey-Bass.

Hart , M. (1990). Critical Theory and Beyond: Further Perspectives on Emancipatory Education. Adult Education Quarterly 40(3), 125-138.

Horon, M. J. (1995). Community College Reform and Tech Prep: Leading, Following, or Business as Usual? Pendleton, SC : Partnership for Academic and Career Education.

Houle, C.O. (1961). The Inquiring Mind: A Study of Adults Who Continue to Learn. Madison: University of Wisconsin Press.

Houle, C.O. (1980). Continuing Learning in the Professions . San Francisco: Jossey-Bass

Hull, Dan (1993). Opening Minds: Opening Doors. Waco, Texas: CORD Communications

Kazis, Richard (1995). Two-Year Colleges: What Role Will They Play in Emerging School-to-Work Transition? CAEL Forum, 17(2), 23-26.

Kidd, J.R. (1973). How Adults Learn. New York: Association Press.

Kidd, J.R. (1980). Continuing Professional Education: Prospects for the 80's. Proceedings of the "Moving into the 80's" conference. Calgary, Alberta

Knowles, M. (1973). Practice of Adult Education; Andragogy versus Pedagogy. New York Association Press

Knowles, M. (1975). Self-Directed Learning: A Guide for Learners and Teachers. New York: Association Press.

Knowles, M.S. (1984). The Adult Learners: A Neglected Species . Houston, Texas: Gulf Publishing Co.
Knowles, M. (1992). In Perspectives in Adult Education. Athabasca: Athabasca University Publication.

Knox, A.B. (1977). Adult Development and Learning.San Francisco: Jossey-Bass.

Kolb, D.A. (1976). Learning Style Inventory: Technical Manual. Boston: McBer Co.

Kolb,D.A. (1984). Experiential Learning. New Jersey: Prentice-Hall.

Lacourciere,R.B. (1980). The Life Cycle of Groups. New York: Human Sciences Press

Land , M, (1995). The Missing Link. Vocational Educational Journal, 70(4) , 26-27.

Lewin, K. (1951). Field Theory in Social Science. New York : Harper

Markus, H.R. and Warf, E. (1989). The dynamic self-concept. A social psychological perspective. Annual Review of Psychology, 38, 299 - 337.

Martin, P. and Todd K. (1987). The Alberta Adult Basic Education Project, Adult Literacy and Basic Education, . 11(2), 72-81

Maudsley, D.B. (1979). A Theory of Meta-Learning and Principles of Facilitation. Dissertation Abstracts. Toronto: University of Toronto.

Maslow, A.H. (1970). The Farther Reaches of Human Nature.New York: Viking Press.

Mezirow, J. (1985). Concepts of Action in Adult Education. Adult Education Quarterly 35(3), 227-235.

Mezirow, Jack et al. (1990). Fostering Critical Reflection in Adulthood. San Francisco: Jossey-Bass.

Montefiore, A. (1989). Reflexibility and Responsibility. In Durfee, J. and Rodin, D. (Eds). Phenomenology and Beyond: The Self and its Language. Boston: Kluwes Academic Publishers, 148-167.

Natanson, M. (1966). Essay on Phenomenology. The Hague: Martinus Nijhoff.

National Science Foundation (1995). Joining Forces: Spreading, Successful Strategies.Proceedings of the Invitational Conference on Systemic Reform.Washington, D. C., February 23-25.

Ohio State University (1987). Developing a Curriculum for Change in Adult Education. Columbus, Ohio: The National Centre for Research in Vocational Education.

Ohio State University (1995). Competencies for Health Technology Clusters. Columbus: Centre on Education and Training for Employment.

Parnell, Dale (1993). Logo Learning : Searching for Meaning in Education. Waco, Texas: Association for Thinking, Supervision, and Curriculum Development.

Pettit, R. (1969). On the Idea of Phenomenology. Dublin: Scepter Books.

Perkins, David (1992). Smart Schools: From Training Memories to Education Minds. Don Mills, Ont.: Free Press.

Pratt, D.D. (1984). Andragogical Assumptions : Some Counter Intuitive Logic. Proceedings of the Adult Education Research Conference. Raleigh: North Carolina State University, 237-242.

Quigley, A. (1993). Attrition from Adult Basic Education. Adult Literacy and Basic Education , 11(2) , 63-71

Rogers, C.R. (1969). Freedom To Learn. Columbus, Ohio: Merrill.

Rogers, C.R. (1970). Carl Rogers on Encounter Groups. New York: Harper and Row.

Rogers,C. (1983). Freedom to Leanr for the 80's. Columbus, Ohio : Merrill.

Sandelkowski, M. (1986). The problem of rigor in qualitative research. Advances in Nursing Science, 8(13), 27-37.

Schon, N. (1980). Decade of 1980's is the Decade of Adult Learning: What are our Research Priorities? In Proceedings of the American Education Research Association. Los Angeles.

Schutz, W.C. (1971). Here Comes Everybody. New York: Harper and Row.

Sebranek, P., Meyer, V., Kemper,D., and Van Rys, J. (1996). School-to-Work. Boston: D.C. Heath.

Shared Vision Task Force (1989). Integrating the Humanities into associate Degree Occupational Programs. American Association of Junior Colleges. 59(4), 37-44.

Shor,I, and Freire,P. (1987). A Pedogogy for Liberation: Dialogues on Transforming Education. Massachusetts: Bergin and Garvey.

Southam Literacy Report (1990). Broken Words: A Special Southam Survey. Toronto: Southam Newspaper Group.

Smith, R.L. (1996). Ecology and Field Biology, Fifth Edition New York : HarperCollins.

Statistics Canada (1984). One in Every Five: A Survey of Adult Education in Canada. Ottawa: Ministry of Supply and Services Canada.

Stodgill, R. (1959). Individual Behaviuor and Group Achievement. New York : Oxford University Press.

Thomas, A.M. (1991). Beyond Education. San Francisco: Jossey Bass Publications.

Tuckman, B.W. (1965). Development Sequence in Small Groups. Psychological Bulletin. 63, 284-399.

United States Department of Labor (1995). "What is School-to-Work?" Washington, D.C.: Employment and Training Administration.

United States Department of Labor (1993). "Teaching the Skills Competencies, A Scans Report for America 2000". Washington, D.C.: Employment and Training Administration.

United States Department of Labor (1992). "Learning a Living: A Blueprint for High Performance, A Scans Reports for America 2000". Washington, D.C.: Employment and Training Administration.

United States Department of Labor (1991). "What Work Requires of Schools, A Scans Reports for America 2000". Washington, D.C.: Employment and Training Administration.

Watt, C. and Boss, M. (1987). Barriers to Participation in Adult Upgrading Programs: An Exploratory Study. Adult Literacy and Basic Education, 11(3), 113-122.

Walter, Diane M. (1995). Integrating Work - Basic Learning into Comprehensive Tech Prep Programs: Recommendations from a Practitioner's Perspective. Pendleton, SC.: Partnership for Academic and Career Education.

Welton, Michael (1987). Knowledge for the People: the Struggle for Adult Learning in English-Speaking Canada, 1828-1973. Ontario: OISE Press.

Wlodkowski, R (1985). Enhancing Adult Motivation to Learn. San Francisco:Jossey Bass

Appendices

APPENDIX A - Form 1

Researcher's Journal

Data Analysis

Category #

Decisions	Observations, Questions, and Concerns

APPENDIX A - Form 2

Researcher's Journal

Data Collection

Participant #

Interview #

Decisions	Observations, Questions and Concerns

Appendix B

Participant Information Form

Please complete the following form in order to provide information to use in helping in analysis of information collected during this study. All information will be kept strictly confidential.

Personal

Name:____________________
Address:____________________
Telephone (Home)_______________
(Work)_______________

Previous Educational Background

Number of years in school:__________
Last year attended:______________
Highest level of attainment (ie: grade level, diploma, GED, etc.)
____

What is your present reason for attending school?
____

Have you attended other developmental or upgrading programs (ie: community college, private literacy program, community program, etc.)

__ Yes __ No

If yes, please indicate the type of program in the space provided.

____

If yes, please indicate the last year you attended such a program.

____

Date of Birth D M Y

_ _ _

Please provide a contact number where you can be reached in case of a change of address or telephone. ________________

Appendix C

Participant Release Form

Purpose of Study: Upgrading Adult Learners Attending the Environmental Worker Program at Keyano College

To participants in this study:

I am a graduate student at the University of Alberta. The subject of my master's thesis is "A Phenomenological Study of Adult Learners Attending the Environmental Worker Program at Keyano College". I am conducting this study in Fort McMurray, and I would like to interview mature students attending this program. You are one of approximately six participants.

As part of the study you are asked to participate in a minimum of three in-depth interviews conducted at the end of the program. As the interviews proceed, I may ask occasional questions for clarification or for further information on a subject. For the most part, I will listen to your expressions of your views of your experience in the program and the meaning of those experiences to you.

My aim is to analyze the interview transcripts in order to describe your experiences and those of other people experiencing this phenomenon. The results of this study will be published in my thesis and may be published in other papers such as journals or conference papers or may be used in my instructional activities.

Such interviews will be audio taped and, later, I will transcribe the interviews. It is possible that another person may also transcribe parts of these interviews; however this person will be committed to the confidentiality of the data. In all written matters based on transcripts of these interviews, confidentiality will be maintained. I will not use your name, your personal data or the names of any persons named by you in your interview. All interviews will be transcribed using a pseudonym in place of your name. All data will be kept in a locked drawer at all times.

As the data from your interviews are analyzed, your input will be sought to confirm that what is presented is consistent with your intentions in revealing the information. If, at any time, you wish to delete or omit any part of your comments or expressions from the study, I will do this upon your request. I will also not use any statement in any way that is not consistent with the intentions stated in this document. You may withdraw from this study at any time.

In signing this form, you are assuring me that you will provide accurate information about your experiences to the best of your ability.

I, _________________, have read the above statement and agree to participate under the conditions stated above.

Date	Participant's Signature	Interviewer's Signature
_________	______________________	______________________

Appendix D

Interview Questions

1. Describe the learning experiences in which you participated during the three academic semesters beginning with the upgrading in the first semesters and progressing to the college level course in semesters two and three.
2. Were there any courses/knowledge/skills which you were lacking in the academic preparation that were needed on the job?
3. Comment on any courses which were not necessary on the job which were covered during the academic preparation.
4. Comment generally on the connection between the classroom and the work placaement component.
5. Has your view of yourself or your abilities changed since your participation in the program? Give examples to clarify and demonstrate.
6. What is your concept of a team player? Would your answer to that question have been different before you participated in the program?
7. Describe the nature of the relationships you formed during the program. Describe the nature of relationships you formed on the job in work placements.
8. Please comment specifically on any component of the program which held meaning for you.

Note: Additional questions and probes for clarification pertaining to individual participant's personal anecdotes or examples were included in dialogue.